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# **Development Opportunities in the Occupied Territories**

**(West Bank and Gaza Strip)**

## **Agriculture**

**October 1992**

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## PREFACE

This analysis of the agricultural sector was prepared by Policy Research Incorporated (PRI) as part of an assessment of development opportunities in the Occupied Territories. That assessment, initiated in December, 1991, included a review of eight sectors: agriculture, education, finance and credit, health, industry, infrastructure, trade, and water and sanitation. The process by which the reports were developed included:

- 1) on-site data collection by two American development experts, Dr. Irene Jillson-Boostrom (Senior Technical Advisor) and Dr. Alan Richards (International Consultant);
- 2) the preparation of literature and information syntheses by Palestinian experts in each of the sectors (see attached list);
- 3) review of extensive documents across the sectors (including more than 300 documents from the Occupied Territories, Israel, donor organizations and relevant general development reports);
- 4) preparation of the draft analyses for each sector, with Dr. Jillson-Boostrom preparing those for health, industry, infrastructure and trade and Dr. Richards preparing those for agriculture, education, finance and water;
- 5) follow-up data collection and analysis by Dr. Jillson-Boostrom (to clarify issues and obtain additional data, when possible); and
- 6) preparation of the final development report for each sector and of the cross-sectoral analyses, by Dr. Jillson-Boostrom.

Each of the eight sectoral reports follows a consistent outline, as follows: executive summary of findings, introduction (including a discussion of the importance of the sector for development and key issues, if any), sectoral status and trends, institutions involved in the sector, constraints to development, and development opportunities. Citations for data and information presented in the reports are included at the end of each report; the Executive Summary does not contain specific citations. In addition, each report includes two appendices: 1) *Context of Development in the Occupied Territories* (background relevant to all sectors), and 2) *Visions of a Sustainable Future*, (a discussion of the overall potential for development in the Occupied Territories). In order to contribute to the discussion of sectoral as well as cross-sectoral needs and development opportunities, a particular effort was made to describe the organization and function of each sector in the Occupied Territories insofar as possible.

The sectoral reports are intended to add to the resources available for those involved in development planning in the Occupied Territories. In reviewing these reports, it should be recognized that circumstances have limited the degree to which preparation of these documents has followed standard sector analysis procedures. Data limitations are discussed in each of the documents; such limitations exceed those that pertain in many developing countries. Curfews and strikes hamper data collection. Thus far the final draft documents have not been

reviewed by those involved in development planning and implementation in the Occupied Territories in order to ensure that the documents accurately reflect the reality of each sector. Nor is it possible to ensure that the complete range of opinion and all available data sources have been included, although every effort was made to do so.

The conclusions and recommendations presented in the sector analyses are intended to serve as examples for Palestinians, donors and others involved in development planning for the Occupied Territories. It is recognized that each entity involved in this process will have its own specific world view and development goals to which these recommendations may or may not relate. The goals included in this report (in Appendix II, Table 2), based on general development goals derived from World Bank documents and other sources, are intended to stimulate ideas and discussion.

### *Acknowledgments*

Preparation of this report on the agricultural sector would not have been possible without the contributions of many individuals. Dr. Alan Richards, then Professor of Economics at the University of California, Santa Cruz, contributed the initial draft of the agricultural sector report, which served as a primary basis for major sections of the report prepared by Dr. Jillson-Boostrom. Dr. Hisham Awartani facilitated access to important data resources in the Occupied Territories and made available the draft of his recent book on agriculture in the Occupied Territories. Mr. Fayez Al Wahaidi facilitated access to data resources in the Gaza Strip and prepared a report on non-governmental organizations in the Gaza Strip. Dr. Shaker Joudeh, Mr. Salah Faroukh and Dr. Firas Sawalha each prepared a report on agriculture in the Occupied Territories. Ms. Monica Awad provided invaluable assistance with respect to identifying and collecting relevant documents, making logistical arrangements and performing other research and administrative tasks.

Cora Gordon and Christine Baluck, both of Policy Research Incorporated, assisted in compiling information resources available in the United States, reviewed and commented on multiple drafts of the reports and assisted in the production of the document. Dr. Mae Thamer, also of PRI, reviewed and commented on the initial draft prepared by Dr. Jillson-Boostrom. Sara Davidson edited the final draft of the report and designed and executed the desktop published version.

I am also most grateful to the representatives of donor organizations and international private voluntary organizations (PVOs), and to the more than 100 Palestinians who agreed to be interviewed. All provided information and ideas necessary for these analyses and engaged in constructive discussion of development opportunities in the Occupied Territories. I trust that this report will be useful to them and to all those involved in efforts to promote sustainable development in the West Bank and Gaza Strip.

Irene Jillson-Boostrom, Ph.D.  
Clarksville, Maryland  
October, 1992

## ACRONYMS

ACC	Agricultural Coordinating Committee
ACCI	Arab Development and Credit Company
ACDI	Agricultural Cooperative Development Institute
ADCC	Arab Development and Credit Company
AGREXCO	Israeli State-owned Agricultural Marketing Company
AID	Agency for International Development
AIE	Arab Insurance Establishment
AMIDEAST	American Mideast Education & Training Services
ANERA	American Near East Refugee Aid
CBS	Central Bureau of Statistics
CCC	Civilian Conservation Corps
CD	Cooperation for Development
CDP	Cooperative Development Project
CIS	Commonwealth of Independent States
CIVAD	Civil Administration
CRS	Catholic Relief Services
CWA	Communications Workers of America
DOA	Department of Agriculture
DOS	Department of State
EC	European Community
ECWA	Economic Commission for Western Asia
EDG	Economic Development Group
FTA	Free Trade Agreement
GCMHC	Gaza Community Mental Health Committee
GDP	Gross Domestic Product
GFTU	General Federation of Trade Unions
GHS	Government Health Services
GNP	Gross National Product
GOI	Government of Israel
ICARDA	International Center for Agricultural Research in the Dry Areas
ICD-9	International Classification of Diseases
ICS	International Christian Society
IDF	Israeli Defense Force
ILO	International Labour Organization
IMR	Infant Mortality Rate
JCO	Jordanian Cooperative Organization
JD	Jordanian Dinar
JFPP	Jordanian Family Planning Program
MAP	Medical Aid to Palestinians
MCH	Maternal and Child Health
MOI	Ministry of Interior

NGO	Non-Governmental Organization
NHI	National Health Insurance
NICU	Neonatal Intensive Care Unit
NIS	New Israeli Shekel
OECD	Organization for Economic Co-Operation and Development
OT	Occupied Territories
PARC	Palestinian Agricultural Relief Committee
PFS	Patients Friends Societies
PFWAC	Palestinian Federation of Women's Action Committees
PHC	Primary Health Care
PLO	Palestinian Liberation Organization
PRCS	Palestinian Red Crescent Society
PVO	Private Voluntary Organization
SAI	Statistical Abstract of Israel
SCF	Save the Children Federation
SCHC	Society for the Care of Handicapped Children
TDC	Technical Development Center
TDG	Technical Development Group
TDP	Trade and Development Program
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UK	United Kingdom
UNESCO	United Nations Educational, Scientific & Cultural Organization
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNRWA	United Nations Relief and Works Agency
UPMRC	Union of Palestinian Medical Relief Committees
USG	United States Government
VAT	Value Added Tax
WHO	World Health Organization
WUB	Workers' Unity Block

## **I. EXECUTIVE SUMMARY**

Although data have not been systematically gathered and reported since the Intifada began in December, 1987, the agriculture sector probably still accounts for roughly one-fifth of the total gross domestic product (GDP); the estimated total income from agriculture in the West Bank is approximately \$150 million. Agriculture is, however, heavily dependent on export of goods to Israel and Jordan, both of which impose trade barriers on Palestinian goods. The agriculture sector in the Occupied Territories directly employs approximately one Palestinian in five; nearly one-half of Palestinians receive at least some income from this sector. Farms in the Occupied Territories are primarily owner-operated (i.e., they are predominantly family farms), with seasonal labor and with Palestinian women playing a significant role in agricultural production. While low wages contribute to a competitive advantage for Palestinians in terms of product pricing, there are important socioeconomic disadvantages (e.g., low income for families). Finally, although agriculture contributes importantly to the economy, Palestinians are hardly self-sufficient with respect to food products. For example, more than 80% of wheat, all sugar and half of all dairy products are imported, as is most of the animal feed.

Of the total land area of 5,572,200 dunums (a dunum is equal to .23 acres) in the West Bank, roughly three million dunums are available to Palestinians (that is, they have not been acquired by Israel or by settlers); in Gaza, approximately 238,000 dunums are available to Palestinians. Approximately 33% of the Palestinian land in the West Bank is under cultivation, about 5% of which is irrigated. In the Gaza Strip roughly half of Palestinian land is cultivated, of which 60% is irrigated. Less than 20% of West Bank orchards are irrigated using modern methods (drip or sprinkler), while roughly 60% of vegetables are so irrigated. Corresponding figures for Gaza are about 50% and 85% for fruits and vegetables, respectively. It has been estimated that some 18,000 dunums of orchards are now over 30 years old and are accordingly yielding less than two tons per dunum, while at least three tons are necessary for economic viability. An estimated 1.5 million dunums of land in the West Bank, mostly around Ramallah, Hebron, and Nablus, could be reclaimed for cultivation and other uses.

In the West Bank, an estimated 60% of cultivated land is planted with fruit trees, with olives dominating in the north and grapes in the south; 33% of cultivated land is planted with field crops. Olive production--a mainstay of the economy of the West Bank--is markedly unstable and this has important implications for income variation and risk considerations. In the Gaza Strip, 60% of cultivated land is devoted to citrus crops; in 1989 citrus accounted for roughly 80% of the total value of farm exports.

Food processing is an important component of industrial production in the Occupied Territories, but is severely constrained by a dependence on imported products, inefficiency (in production technology, management and geographical distribution), poor quality control and adulteration. Excess capacity exists in many of the food processing plants, including the dairy plants, which have an estimated total capacity of 50 tons per day, but which produce only about 17 tons per day. An estimated 80% of the input required for production in food processing plants is imported from Israel. Most of the plants (particularly the dairy plants) are



operated by cooperative societies which utilize equipment purchased through or by donors (and in some cases, obtain partial operating costs from them). It is unclear whether such plants are, or would be, commercially viable without these grants or favorable loans. These cooperative-operated plants also compete (some would say unfairly) with the for-profit private sector.

Formal public sector institutions in the Occupied Territories are administered by the Government of Israel Civil Administration (CIVAD) Department of Agriculture; the budgets and activities for agriculture have significantly diminished since the late 1970s, and in some areas critical activities such as extension programs are now essentially defunct. The total expenditure of the CIVAD Agricultural Department in 1991 was \$1.5 million dollars, of which just over 65% was allocated to salaries. It is estimated that less than \$30,000 was devoted to extension, training, research and data collection--all of which are critical to sustained development in the agricultural sector. By 1987, there were only 43 extension agents serving all of the Occupied Territories. Donors have contributed significantly to the agriculture sector, primarily in terms of grants and loans to cooperatives, although support has also been provided for small scale agricultural projects not associated with cooperatives and to non-government organizations (NGOs) which are involved in extension, training and research services. Municipalities are involved in agriculture in a variety of ways, including as operators of slaughterhouses which have been largely funded by donors. The involvement of municipalities in what could be a profitable enterprise is controversial, as is their involvement in other physical infrastructure projects.

Various aspects of agricultural and production infrastructure are severely lacking. For example, marketing information systems and export support mechanisms (e.g., refrigerated transport, cold storage and mechanisms for participation in trade fairs) are just now being developed; quality control is sporadic at best, and agricultural research barely exists. However, Palestinian NGOs and universities have initiated a number of projects which have the potential to both significantly improve development in the agriculture sector and build on existing human resources capacity.

Table 1, found on page 36 of this report, presents a summary of conclusions and recommendations for agriculture.

## II. INTRODUCTION

Analysis of the agricultural sector is complicated not merely by fragmentary and often entirely absent data, but also by the extremely high degree of politicization of all aspects of the "Land Question," which is the core of the Palestinian-Israeli conflict. As wide a range as possible of sources was used in the preparation of this report, including data and information derived from reports prepared by Palestinian agricultural experts, Government of Israel statistics, international agricultural and donor agency data and local NGOs and U.S. and other private voluntary organization (PVO) data and information. Where possible, specific citations are provided; in some cases, the information has been derived by field observation of the Policy Research Incorporated (PRI) team.

The gross land area of the Occupied Territories is 5,932,200 dunums (one dunum = .23 acres); 5,572,200 is in the West Bank and 360,000 is in Gaza. Israel has acquired land in the Occupied Territories comprising at least half of the total area of the West Bank and about 33% of the Gaza Strip. The United Nations estimated that 53.7% of the land area of Occupied Territories has been taken over by Israel.<sup>1</sup> Because there is no agreement on total amount of land available to Palestinians for cultivation, estimates of the total land area, and cultivated area, are difficult; this calls into question any statistics for which these figures are the denominator. Some 31.4% of the West Bank (1,753,000 dunums) and 49.4% of Gaza (178,000) are cultivated.<sup>2</sup>

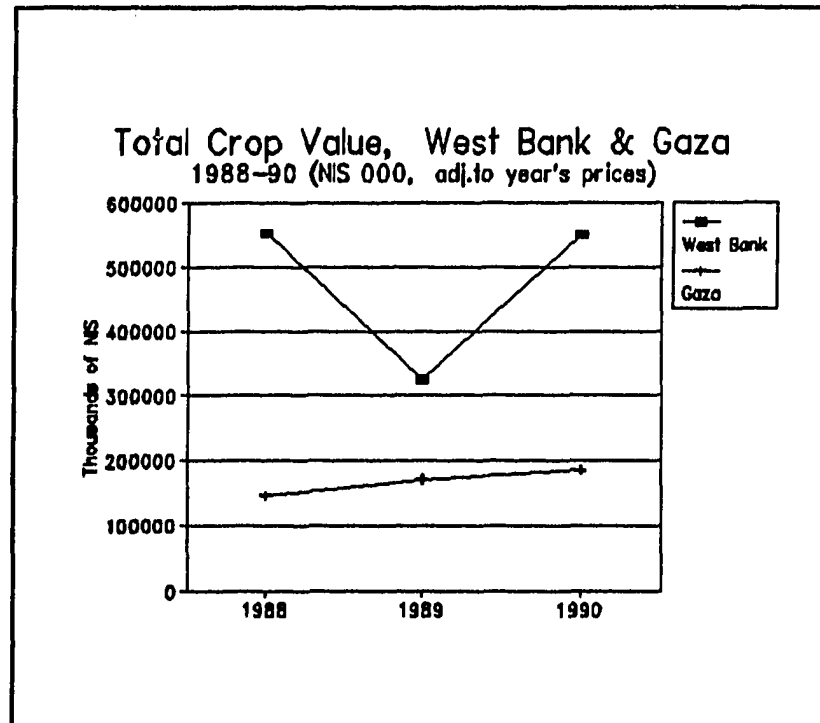
Labor emigration and technological change led to marked increases in per capita incomes in the sector, and indeed, throughout the Occupied Territories. Value added per worker in the West Bank in 1980 was nearly six times (586%) the figure for 1968, while the corresponding figure for Gaza was 330%. Labor use in agriculture fell until the mid-1980s, but has risen since the Intifada. The majority of labor in agriculture is family labor: in 1985, over 90% in the West Bank and over 75% in Gaza.<sup>3</sup> It has been estimated that about 70% of the farm labor force in the West Bank is female, almost exclusively family, seasonal labor.<sup>4</sup> Such labor provides an important source of competitiveness to Palestinian farmers: the phenomenon of the "self-exploiting peasant," familiar to agricultural economists since Chayanov,<sup>5</sup> is apparent in Palestinian agriculture. Privileged access to the low opportunity-cost labor of family members gives Palestinian farmers one of their few competitive advantages in the export market. However, there are socioeconomic disadvantages as well, including, for example, low per capita and national income and decreased ability for individual farm workers to advance with respect to job position and salary.

Weak, underdeveloped, formal credit institutions have necessitated the strong involvement of family, clan, and community networks in risk-sharing. However, given the general economic decline in the Occupied Territories since August, 1990, this source of financial investment in agriculture is likely to be severely stretched.

#### **A. IMPORTANCE OF AGRICULTURE FOR DEVELOPMENT IN THE OCCUPIED TERRITORIES**

Agriculture looms large in the economy of the Occupied Territories. Although data have not been systematically gathered and reported since the Intifada (which began in December, 1987), this sector probably still accounts for roughly one-fifth of the GDP of the Occupied Territories and directly employs one Palestinian in five. Nearly one-half of the Palestinians in the Occupied Territories receive at least some income from agriculture. Total crop value was estimated at \$239 million in the West Bank and \$81 million in the Gaza Strip in 1990.<sup>6</sup> See Figure 1 on the following page.

Figure 1



Source: Israeli Statistical Abstract, 1991. Central Bureau of Statistics: Jerusalem; 1991.

In the Occupied Territories, agriculture is likely to play an important role in the economy, certainly until the industrial and entrepreneurial sectors are more fully developed and can compete effectively in the global market. Even then, agriculture could and should continue to contribute to Palestinian society, providing foodstuffs for local consumption as well as for export. The sector can and must be improved, however, to ensure that the most effective and efficient use is made of scarce land and water resources.

## B. KEY SECTORAL ISSUES

### B.1 Land Reclamation and Ownership

In the Occupied Territories, land reclamation efforts are often carried out by cooperative societies with PVO assistance. Officials of the Agricultural Cooperatives Union (Nablus) estimate that some 1.5 million dunums, mostly around Ramallah, Hebron and Nablus, could be reclaimed. Land reclamation can have significant economic benefits, generating considerable employment in the short term and economic benefit over the medium and longer term, depending on the utilization of the land after reclamation. The political benefits to the U.S. of funding small-scale land reclamation projects are considerable. Palestinians, eager to implement such activities as a means of offsetting Israeli land seizures, believe that U.S. assistance for land reclamation would provide evidence of the U.S. position with respect to settlements in the Occupied Territories.

## **B.2 Subsidies for Israeli Agricultural Water Use**

The Israeli agricultural sector receives direct and indirect subsidies from the Israeli government which de facto ensure that Palestinian agriculture is at a distinct disadvantage with respect to growth and development. Perhaps the most important of these subsidies is the subsidy provided to Israeli farmers (including settlers in the Occupied Territories) for agricultural water use; these subsidies, together with the limited access to the water network allowed for Palestinian farmers, adversely affect the ability of West Bank farmers to expand irrigation. Recently announced decreases in water subsidies to Israeli farmers could increase supplies available to Palestinian farmers, but there is no guarantee that the savings will be so allocated. Gazans face similar problems with respect to subsidies for Israeli farmers and settlers, but Gazan water supplies are grossly inadequate and have been systematically over-exploited for several decades, with dangerous long-term hydrological and ecological consequences.

## **III. SECTORAL STATUS AND TRENDS**

The Palestinian agriculture sector is already very much a "middle-income" type of agriculture. That is, it is relatively highly mechanized (farmers have long been exposed to modern technology), and the rural population has high levels of educational attainment in comparison with other rural populations in developing countries (although not in comparison with their Israeli competitors). However, the per capita income for Palestinians, including farmers, is low, and the current outlook for the agricultural sector to make sustained contributions to the economy is not favorable.

No reliable data are available with respect to the distribution of land ownership or management/tenancy in the Occupied Territories. However, evidence suggests that tenancy is widespread in two areas (Tulkaram/Jenin and the Jordan Valley), while elsewhere owner-operation of farms seems the norm. Tenancy in Tulkaram/Jenin is mainly on a cash-rent basis, while sharecropping is common in the Jordan Valley. A 1983 study conducted in the North Jordan Valley found that most share-leases were verbal contracts, covering one year.<sup>7</sup> Absentee owners typically provided water pumps, water and other services and usually received 50-59% of the annual crop yield. As always, there is dispute about the conditions and equity of sharecropping, with some claiming that workers are exploited while others argue that sharecropping is an efficient vehicle for diffusing risk in an environment of essentially non-existent, formal, rural capital markets.

Indeed, published data show that the sector began to deteriorate in the early 1980s; subsequent events, in particular the Intifada and Gulf War, only exacerbated an already difficult situation. During the Intifada, the agriculture sector increased its role as "employer of last resort," absorbing labor displaced from work in Israel or abroad. Travel restrictions, curfews and a host of other impediments to the free flow of goods and information became especially severe during the past several years at the same time that land seizures have expanded. Finally, the exceptionally severe winter of 1991/92 caused considerable damage to a farm sector almost totally lacking in conventional risk-sharing institutions.

## **A. GENERAL TRENDS IN OUTPUT AND LABOR IN THE AGRICULTURAL SECTOR**

For the first 10 to 13 years after the 1967 Israeli occupation of the West Bank/Gaza, the agricultural sector expanded rapidly. From 1968 to 1980, the value of real agricultural output in the West Bank grew at an annual rate of 10.8%; the growth rate of real value added agricultural goods grew at almost exactly the same rate (10.7%). Corresponding figures for Gaza were considerably lower: 7.0% for agricultural output and 7.6% for real value added.<sup>8</sup>

The agricultural labor force fell by roughly 10,000 or by about 25% from 1968 to 1980, as Palestinians increasingly sought off-farm employment either in Israel or in the oil-exporting countries of the Gulf. The farm labor force in the Occupied Territories declined more rapidly than anywhere else in the region, with the sole exception of Jordan. From 1970 to 1985, the farm labor force declined by 32.6% in the West Bank, 48.2% in Gaza, 30.7% in Lebanon, 61% in Jordan, and 9.1% in Syria.<sup>9</sup> Because of methodological difficulties, especially the undercounting of women's labor, all farm labor estimates in the region are subject to considerable error.

Several indicators of domestic demand for agricultural products in the Occupied Territories are:

- \* Population growth expanded by approximately 3% overall for the West Bank and Gaza, respectively, from 1969 to 1986 and combined with rapidly increasing per capita incomes to generate relatively high rates of growth in demand for foodstuffs.
- \* From 1969 to 1986 the demand for food rose at approximately 6.2% per year in the West Bank and at 4.8% in Gaza.<sup>10</sup> The demand for fruits and livestock products expanded very quickly because of their high income elasticity of demand. West Bank per capita consumption of milk, meat and fruit rose 140%, 258% and 41%, respectively, from 1964/66 to 1985. In all cases, most of the gains came in the 1970s.<sup>11</sup>
- \* Much of the increased output for these goods, especially dairy products, was supplied by neighboring Israeli farmers. However, output of fruit and vegetables expanded rapidly in the Occupied Territories in response to the increased demand. Such developments favored producers of irrigated horticultural products over those of rainfed cereals.

Developments on the supply side complimented those of demand; for example:

- \* As is often the case with farm families in any country, emigration for the purpose of employment became a mechanism for Palestinian farm families to ensure at least minimal income. This was especially important, because other mechanisms for risk-sharing were weak or absent. Labor emigration reduced labor supplies and raised wages.

- \* For cereals and other staples, relatively sluggish demand growth, comparatively inexpensive imports and the absence of suitable alternative technologies for hilly areas reduced farmers' margins.
- \* As a result of reduced prices for cereals, farmers reduced the area devoted to "field crops" (wheat, barley, beans, sesame and tobacco), from about 833,000 dunums in 1968 to about 521,000 dunums in 1980.<sup>12</sup>
- \* Technological change and brisk demand for horticultural products led to an increase in the area under cultivation in fruit trees. Fruit also increased its share of the value of agricultural output from 35.1% in 1969/71 to 46.4% in 1977/79.<sup>13</sup> Remittances of Palestinian workers often provided the capital necessary to undertake technological change.

Neighboring Arab countries underwent a similar process of reallocation of land and output value within their agricultural sectors.<sup>14</sup> However, there are two major differences between developments in the Occupied Territories and those which transpired elsewhere in the region. First, the proximity of highly subsidized (and technologically efficient, as opposed to economically efficient) Israeli producers to markets in the Occupied Territories meant that Palestinian farmers lost part of the "natural protection" (due to transport costs) which producers of such products enjoyed in other Arab countries. Such competition tended to moderate price increases, which helped Palestinian consumers and hurt Palestinian farmers. In other countries, the government often responded with food imports to assist domestic consumers. This was especially prominent during the 1970s at the height of the regional oil boom. Second, elsewhere in the region the withdrawal of labor, the increase in remittances and the acceleration of demand for high-value products often led to an expansion of irrigated areas for farming. Such a response was sharply constrained in both the West Bank and Gaza for two reasons:

- 1) much of the land best suited for irrigated horticultural production lies in the Jordan Valley, and much of this land has been confiscated for use by settlers; and
- 2) Israeli regulations often prevented Palestinian farmers from expanding irrigation.

For a more detailed discussion of water issues, see the companion sectoral report, "Water in the Occupied Territories."

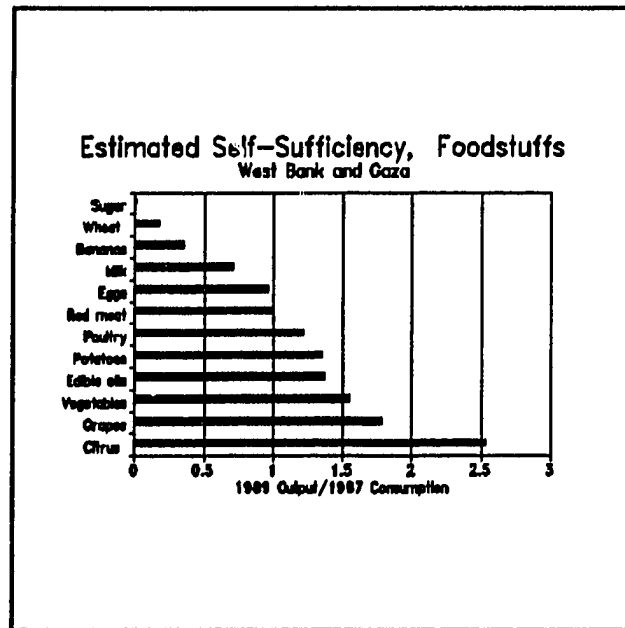
The first half of the 1980s may be fairly characterized as one of moderate decline: both the value of output and value added in the sector fell from 1980 to 1984/85 (the last year for which reliable data exist). Real output on the West Bank in 1985 was roughly 25% below that of 1980; in Gaza output peaked in 1977, falling nearly 30% by the mid-1980s. A variety of causes underlay this decline:

- \* Weather was poor in the early 1980s, when a series of droughts occurred.
- \* The agriculture sector suffered from the macroeconomic disequilibrium and crisis of the Israeli economy, as inflation accelerated to four-digit levels, and the exchange rate became seriously overvalued. The austerity program which began in the second quarter of 1985 sharply reduced Israeli Government (GOI) support of agriculture in the Occupied Territories.
- \* Deflation in Israel had an adverse effect on the demand for Palestinian labor in Israel, and therefore, on remittances and incomes. The number of Palestinians working in Israel did not decline, and probably even increased somewhat, but the rate of growth of the demand for Palestinian labor in Israel slowed. By 1982, it is estimated that perhaps 79,000 Palestinians were working in Israel;<sup>15</sup> some 100,000 were working there in 1990<sup>16</sup>.
- \* As incomes and demand for high-value farm goods slackened in Israel, competition intensified as Israeli producers sought to unload surpluses.<sup>17</sup> Demand for Palestinian produce in Jordan also stagnated, as Jordanian producers became increasingly competitive and as incomes in that country leveled off.
- \* The onset of the Iran-Iraq War deprived Palestinian farmers of the very lucrative Iranian market.
- \* GOI land seizures and water restrictions continued and, in some areas, intensified, particularly since 1990.

In an effort to maintain some equilibrium in the agricultural sector--if not to expand the sector--Palestinians began attempts to create a market in the Occupied Territories which would be somewhat protected from Israeli competition. These efforts, which included production of dairy products and other processed foodstuffs, have been partially successful. It should be noted that this process was not free of the usual ironies which cloud protectionist moves. For example, although sales of Israeli dairy products in the Occupied Territories may have declined, sales of Israeli animal feed increased.

Parallel to the Intifada, Jordan formally removed itself from all political responsibility for the West Bank, which permitted the Amman government to succumb to protectionist pressure from its own domestic farm lobby. West Bank exports to Jordan effectively collapsed. By contrast, farm exports to Israel appear to have increased during the first year of the Intifada. Estimates of self-sufficiency for key foodstuffs are as follows: wheat, 18%; sugar, 0%; potatoes, 135%; vegetables, 155%; citrus, 253%; grapes, 178%; bananas, 36%; edible oils, 137%; red meat, 99%; poultry, 122%; eggs, 97%; milk, 71%.<sup>18</sup> See Figure 2 on the next page.

**Figure 2**



Source: Awartani, H. Agriculture in the West Bank and Gaza Strip: Dynamics of Change Since 1968. Geneva: UNCTAD (Draft Report); 1992.

The Gulf War created additional havoc for the farm sector. The six-week, 24-hour curfew during the War severely limited farm activity. Since January and early February is the time for land preparation for cereals in the West Bank, the timing of political and military events was most unfortunate from an agricultural development perspective. While improvements were seen in late 1991, the storms of the winter of 1991/92 have wrought considerable damage (e.g., destroying some 20% of Gaza greenhouses), at a time when savings have been drained by draw-down during the Intifada and Gulf Crisis/War.



## B. CROPPING PATTERNS

### B.1 Overview

In 1990, the distribution of the cultivated land area in the West Bank was as follows:<sup>19</sup>

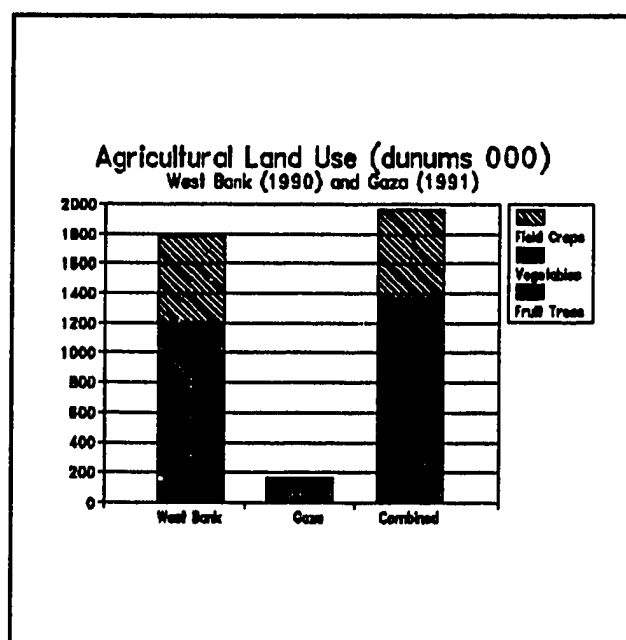
Field Crops	588,000 dunums
Vegetables	150,000 dunums
Fruit trees	1,055,000 dunums
Total	1,793,000 dunums

Corresponding figures for Gaza in 1991 were:<sup>20</sup>

Irrigated vegetables	41,000 dunums
Rainfed vegetables	25,000 dunums
Field crops	10,000 dunums
Citrus	59,000 dunums
Other fruits	43,000 dunums
Total	178,000 dunums

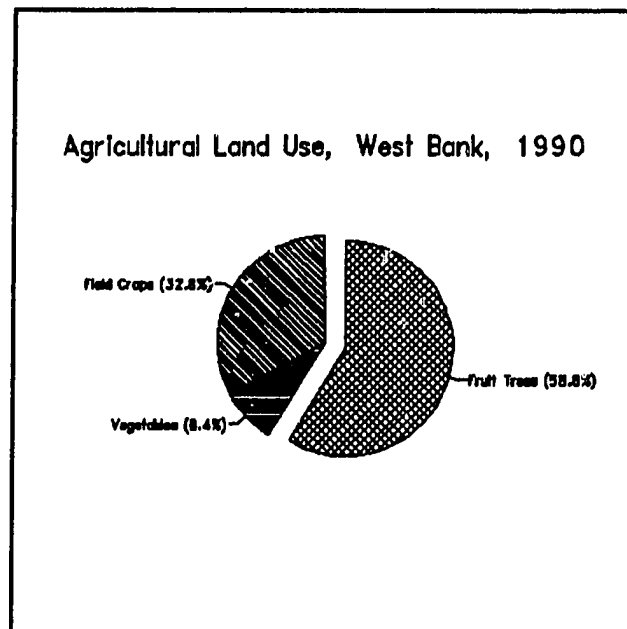
Agricultural land use for the West Bank and Gaza Strip is shown in Figures 3, 4 and 5.

Figure 3



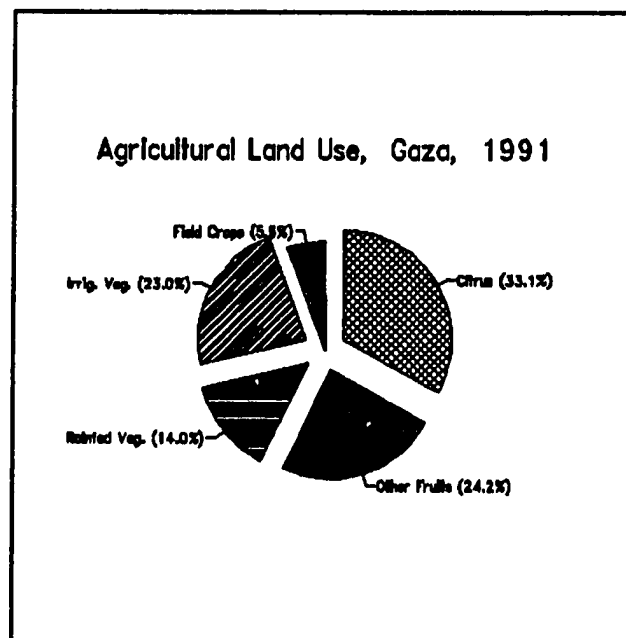
Source: Joudeh, S. The Agriculture Sector in the West Bank. Nablus; Report prepared for Policy Research Inc., Clarksville, MD; 1992.

**Figure 4**



Source: Joudeh, S. The Agriculture Sector in the West Bank. Nablus; Report prepared for Policy Research Inc., Clarksville, MD; 1992.

**Figure 5**



Source: Joudeh, S. The Agriculture Sector in the West Bank. Nablus; Report prepared for Policy Research Inc., Clarksville, MD; 1992.

In contrast to the 1970s, when the land area cultivated in field crops decreased, there has been an increase in the land area of field crops since 1986, a development which would be consistent with falling incomes and increasing cost of farm labor supplies.

Irrigation is overwhelmingly used for vegetables and fruits. Less than 20% of West Bank orchards are irrigated using modern methods (drip or sprinkler), while roughly 60% of vegetables are so irrigated. Corresponding figures for Gaza are about 50% and 85% for fruits and vegetables, respectively.<sup>21</sup> Relatively speaking, Gazans use more advanced technology than do West Bankers, but even in Gaza, over half of all orchards are irrigated using water-wasting surface flow methods. It is estimated that drip irrigation reduces the amount of water needed per dunum of Gaza citrus from 1000 mcm/year to 700 mcm/year. This is an important area for technological change and assistance. The principal irrigated areas in the West Bank are in the Tulkaram-Jenin area, especially in the Jordan Valley. In the Northern West Bank, olives and dry-farming are common; most grape cultivation occurs in the Hebron-Bethlehem area.

## **B.2 Grain Production**

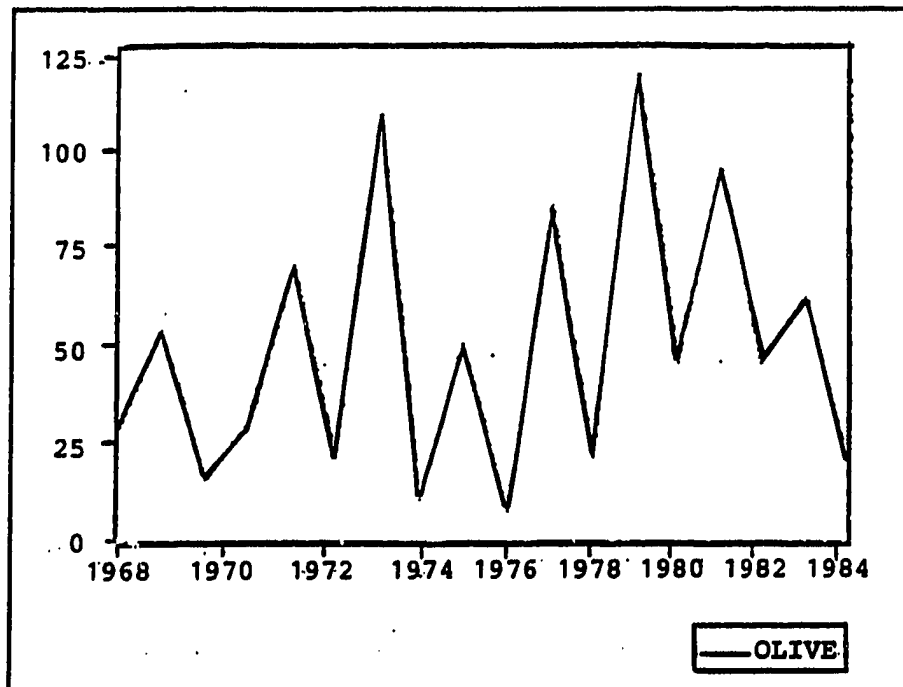
Grain production seems to have recovered from its mid-1980s nadir. This may be partly the result of increases in the cultivated area as argued above and also simply the fruit of relatively favorable weather. In 1990, West Bank wheat output was 45,000 tons compared to 27,000 tons in 1989 and 39,000 tons in 1988. Such fluctuations are typical of rain-fed grain cultivation in Western Asia, including the Middle East. Sesame production increased 50% from 1989 to 1990. It is very likely that numbers for 1991 and 1992 will be far less favorable, as a consequence of the Gulf War and adverse weather conditions.

## **B.3 Olive production**

Olive production is a mainstay of West Bank farming. The area planted in olive trees reportedly increased by just over 13% in the 11 year period from 1978 to 1989 (718,000 to 812,000 dunums), but then decreased by 7% in the two year period from 1989 to 1991, to 753,916 dunums.<sup>22</sup> The decline in area may be the result of Israeli tree-removal; Palestinian sources claim that some 78,446 olive trees were uprooted by the Israeli Defense Force (IDF), settlers and the GOI "Green Patrols" during the Intifada.<sup>23</sup>

Olive production is markedly unstable even in "normal" years as Figure 6 on the next page shows. The coefficient of variation of olive output from 1968 to 1985 was roughly 70%; olive production was approximately 25% of the value of West Bank farm output in 1990.<sup>24</sup> Production exceeds consumption on the West Bank by 37%.<sup>25</sup> Fluctuations in value of such an important output have serious implications for income variation and risk considerations, which are briefly analyzed below. Note that, in general, olives are grown on marginal land, using family labor (which represent low opportunity costs) and few purchased inputs. In addition, cooperatives, often with NGO assistance, are now engaged in the processing of olives.

**Figure 6**  
**Olive Production in West Bank, 1968-85**



Source: Calculated from data in Kahan, D. Agriculture and Water Resources in the West Bank and Gaza (1967-87). Jerusalem Post and the West Bank Data Project; 1987.

#### **B.4 Citrus production**

Citrus is by far the most important crop in Gaza and has long dominated the value of farm exports from the Occupied Territories; for example, in 1989, citrus accounted for roughly 80% of the value of farm exports. The area planted in citrus trees has been relatively stable in the West Bank (25,600 dunums in 1977/79 and 24,500 dunums in 1986/88). The situation in Gaza, where most citrus is grown, is markedly different. There the area cultivated has fallen from 72,700 dunums in 1977/79 to 59,500 dunums in 1991.<sup>26</sup> The citrus sub-sector in Gaza faces numerous problems, for instance:

- \* water scarcity and increased salinity;
- \* diffusion of epidemic disease, especially porosis;
- \* aging orchards (it is estimated that some 18,000 dunums of orchards are now over 30 years old, and are accordingly yielding less than 2 tons per dunum, while at least 3 tons are necessary for economic viability);
- \* lack of agro-processing, e.g., juice factories;
- \* loss of export markets due to uncontrollable external factors, the most recent of which is the civil war in Yugoslavia, formerly the main overseas market for Gaza citrus; and

- \* severe restrictions and a variety of fees levied by GOI authorities (e.g., \$15/ton charge on all exports, fees for spraying and inspection). Farmers assert that they are unable to obtain permits to replant either citrus or other fruit trees. They are unwilling to uproot old trees without prior permission to replant because of concerns over the interpretation of Ottoman Land Law--they fear that it will be easier for the authorities to take their land if they have planted it in annual crops in contrast to fruit trees. Despite such property right concerns, tens of thousands of dunums of citrus trees have been reoriented to vegetable cultivation.

The impending water crisis in Gaza makes it very unlikely that the citrus situation will improve markedly in the immediate future. Even if all marketing, tax, processing, and other constraints were removed, the scarcity of water will probably become increasingly acute in the years ahead. The outlook for Gaza citrus is poor. It is essential that research be conducted that examines alternative crops, which are both water-saving and have good marketing potential. The recent development of carnations for export is not an example of a product which satisfies these two constraints; it uses roughly 1,700 cu.m/dunum/year of water, nearly 70% more than citrus. Recommendations for such a detailed study should then be swiftly implemented, if Gaza is to have a viable farm sector in the coming decades.

#### **B.5 Other fruit production**

The area devoted to grapes has steadily declined during the Occupation from 128,000 dunums in 1966 to 81,500 in 1990. Grape farmers face a water constraint (since they are not permitted to sink additional wells), and there have been some serious pest problems with few systems available to respond to the problems. For example, agricultural specialists assert that a fungicide used in 1990 to protect grapes proved ineffective. Despite such difficulties, output per unit land has risen by over 150% during the past two decades.<sup>27</sup>

Marketing of grapes is problematic. The main variety (white Dabouki) is too soft for transport as a table grape, particularly using relatively primitive packing technologies. At the same time, there are no processing facilities, apart from a few specialized wineries serving the Christian population. Given the climate and local tastes, it is quite possible that a juice factory would be economical.<sup>28</sup> At the moment, none exists, whether because of GOI licensing or the highly uncertain investment climate.

Strawberry cultivation was introduced on a pilot scale in Gaza about 12 years ago. This highly labor-intensive activity (300 work days/dunum/year) is concentrated in the northern Gaza Strip. Output is largely exported, and production is highly remunerative. However, the area devoted to this crop has declined during the past several years: 290 dunums in 1991 compared with 400 dunums in the early 1980s. Gaza producers are heavily dependent upon Israeli institutions for seedlings and marketing; this dependence proved crippling during the political upheavals of the past several years.

Bananas are mainly produced in the Auja region and in the Jordan Valley under irrigation. They are an extremely water-intensive crop (3,000 cu.m/dunum,

compared with 1,000 cu.m./dunum for citrus). Water scarcity, increasing water salinity and marketing constraints (especially, increasing Jordanian competition in Jordanian markets) have all led to a decrease in banana cultivation. For these reasons, the banana crop is not seen by Palestinian agronomists as a crop with high potential.

Almond trees cover a large area (some 10% of the cultivated area of the West Bank), however, the yield of these trees is low. Almond production is labor intensive and there is little available support, particularly for pest control. In view of the current slack labor market, there may be underexploited potential for this crop. Expanded technical assistance for pest control and marketing could produce positive net economic and environmental benefits. A similar case may be made for figs, although this fruit has faced serious insect problems recently, and Palestinian farmers have been prohibited from importing the most productive and marketable varieties of fig seeds.

#### **B.6 Vegetable production**

Vegetable production is divided between irrigated and non-irrigated sub-sectors. During the 1980s, the total vegetable area in the West Bank nearly doubled (from 80,000 dunums to 150,000 dunums). In 1990, roughly 60% of the West Bank vegetable area was rain-fed, while in Gaza the proportions are roughly reversed. There is some regional specialization. For example, nearly 75% of tomato production is in the Jordan Valley (Ghor), while farmers in Tulkaram and Qalqilya specialize in cucumber production. Eggplant is another popular crop, whose production rose by 40% in 1990.

Although Palestinian vegetable producers are highly competitive in the Israeli market, one should be cautious in forecasts for development of the vegetable sub-sector under different political scenarios. While it is true that liberalization of Israeli agriculture (i.e., opening of Israeli markets to Palestinian produce and a cessation of subsidies to Israeli producers) would greatly benefit Palestinian vegetable farmers, regional trade liberalization would confront Palestinians with severe competition from Jordan and Egypt. Producers in these two countries enjoy labor and water costs far below those for the West Bank and Gaza. They also have the benefit of a considerable head start in export markets. Nevertheless, Palestinians probably continue to have a comparative advantage in horticultural production.

### **C. LIVESTOCK**

Livestock products account for about half of the total value of farm output in the West Bank, with such production initially stimulated by the Intifada-related boycott of Israeli goods. Small ruminants (sheep and goats) were a critical part of farming systems before 1967, with much free grazing especially in the arid hills east of Hebron-Bethlehem. These and similar areas were closed and often confiscated by the GOI after 1967. Estimates of the total number of small ruminants vary widely, from a one-third decrease during the first 15 years of occupation<sup>29</sup> to wide fluctuations between 1967 and 1985/86.<sup>30</sup> In the mid-1980s a new breed suitable for stall-feeding, Asaf, was introduced and diffused widely.

Increased labor supplies and "import substitution" of the early Intifada fostered an increase in the number of these animals of over 20%. They have done well as a result of efficient management, but the lack of veterinary services, rising feed costs and insufficient technical knowledge have reduced the investment return for some producers.<sup>31</sup>

Cattle numbers likewise rose during the Intifada; however, the absence of modern dairy facilities has reduced the viability of such investment. Under improved political conditions, one would expect dairy production to expand in the West Bank, while that in Gaza might decline, as regional specialization and comparative advantage took hold. Additionally, dairy cattle do not thrive under the hot weather typical of Gaza. However, even if all public subsidies were removed, Israeli dairy producers would remain highly competitive because of their sophisticated technology and highly-trained agricultural workers.

Poultry production seems also to have benefitted temporarily from the boycott of Israeli products. Palestinian producers complain of "market manipulation" by Israeli authorities, for example, refusing to license hatcheries, requiring permits to buy chicks and placing quotas on the number of chicks which Israeli hatcheries may sell to Palestinians. Poultry production also faces problems of disease control, availability and distribution of feed supplies and marketing (e.g., absence of refrigerated transport), all of which are technical problems which can be alleviated if not eliminated.

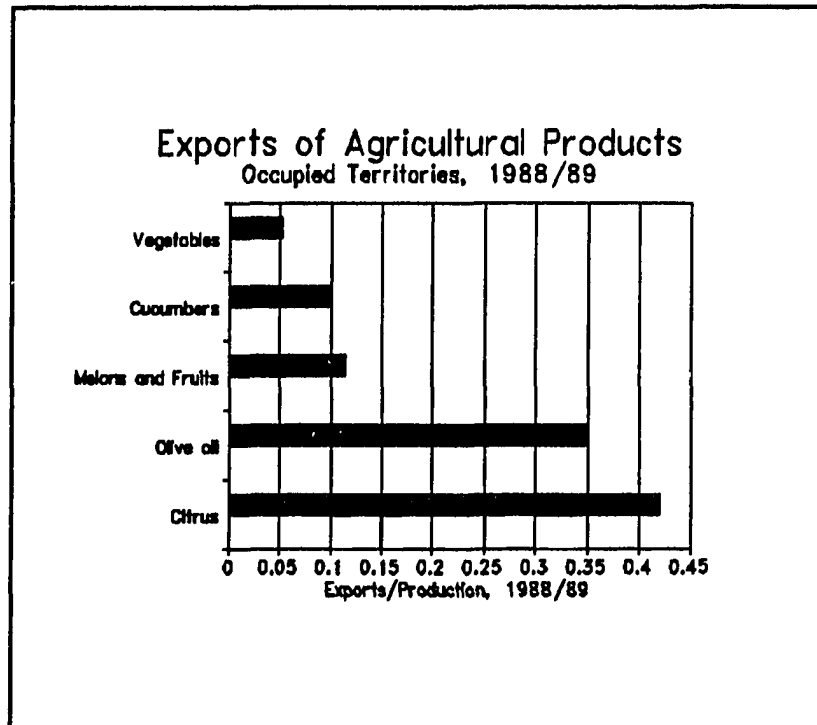
Fishing in Gaza declined in the wake of the Camp David accords when Palestinians were effectively barred from fishing off the Sinai coast. Security restrictions reduced the fishing distance from the coast from 18 to 12 km. Due to such restrictions, the quantity of fish caught fell substantially from about 2,500 tons per year in the late 1970s to about 350 tons in 1990. This subsector faces the usual marketing and credit problems common to all agriculture. There have been some improvements, however, such as the opening of a fish market with modern cold storage facilities. It is possible that there is some modest potential for canning and processing; however, the eastern Mediterranean Sea does not provide especially favorable conditions for fishing, and over-fishing could easily become a problem.

#### **D. EXPORTS OF AGRICULTURAL GOODS**

Export markets absorb a significant proportion of some Palestinian products; Figure 7 presents the proportion of agricultural goods produced (in tons) which were exported. In 1988/89 more than 42% of citrus and 35% of olive oil was exported.<sup>32</sup> In 1986, the most recent year for which comparative country data were available, total agriculture exports were valued at \$75.4 million, with exports

to Jordan accounting for 56.5% of exports. Those to Israel accounted for 40.6%, and those to all other countries only 2.2%.<sup>33</sup>

**Figure 7**



Source: Jaber, A. Summary: Export Potentials for West Bank and Gaza in document published by Cooperative Development Project (CDP); 1990.

Citrus accounted for over three-quarters (68%) of the quantities of exports to Israel in 1988; vegetables were 23%, other fruits 6% and olive oil 3%.<sup>34</sup>

The Israeli market continues to absorb a significant quantity of Palestinian produce. Indeed, as the above figures show, the role of the Israeli market increased both absolutely and relatively during the first year of the Intifada. Palestinian producers, in particular, benefitted from the cost advantages of low wages. However, the market was quite risky, since the GOI applied a policy which may be called "selective protectionism," in which Palestinian produce was allowed into Israel if demand in Israel could not be met from Israeli sources. At other times, Palestinians were subject to restrictions on selling their products in Israel. Of course, such restrictions offer substantial financial rewards for smuggling; in the summer of 1990, Israeli press reports estimated that 40% of the produce in Israeli markets was coming from the Occupied Territories. Although Palestinian sources believe that this number is too high, they agree that considerable smuggling was occurring, perhaps especially from the Tulkaram-Qalqilya area. There was a campaign to "crack down" on smuggling in the first half of 1990, when, according to the Jerusalem Post, over 1,800 Palestinian vehicles carrying "illegal" produce were seized.



During the 1970s, Jordan and the countries of the Gulf provided a lucrative market for Palestinian horticultural exports. Booming incomes and severe domestic supply constraints led the Gulf countries to expand their imports greatly from many sources, including the Occupied Territories. Such exports were not without serious difficulties and high costs: exporters faced expensive delays at the bridges, Palestinian trucks were old and were required to be uncovered to facilitate Israeli security inspection and time and money was required to obtain Jordanian "certificates of origin," which were necessary to exempt produce from the Arab boycott of Israeli goods. Despite these and other costly regulations, export to the East was highly lucrative.

During the past 12 years, both the Gulf and the Jordanian markets have essentially collapsed for Palestinians. The outbreak of the Iran-Iraq War closed the formerly lucrative Iranian market and reduced Iraqi imports. The decline in oil incomes in the mid-1980s similarly depressed markets in the Arab Gulf. The Gulf Crisis and War of 1990 shut Arab Gulf markets to Palestinian produce. The Jordanian market has also greatly declined. Exports during the first half of the 1980s averaged over 200,000 tons per year. By 1989, volume had fallen to 43,000 tons and in 1990 to 34,500 tons.<sup>35</sup> Vegetable exports, in particular, have essentially collapsed from about 37,000 tons in the early 1980s to 2,500 in 1990. The decline has multiple causes:

- \* Given the need for structural adjustment in Jordan, the authorities in Amman have devalued the real exchange rate of the Dinar, which was some 22-23% lower in 1989 and 1990 than in 1987 and 1988, and some 12% lower than the average value in the early 1980s.<sup>36</sup>
- \* The Jordanian government's renunciation of all political authority over the West Bank unleashed the strong protectionist lobbying of Jordanian horticultural producers, especially those of the East Jordan Valley.
- \* An important source of this pressure was the saturated Jordanian market: Jordanian incomes were stagnant or falling, reducing demand for high-income, horticultural products, while supplies increased, thanks to the rapid development of Jordanian production.
- \* Jordanian producers have not only adopted all the same technologies (greenhouses, foliar sprays, etc.) as their Palestinian cousins but also enjoy dramatically lower labor and water costs. Lower labor costs are largely due to the widespread employment of rural Egyptians. Wage costs in Jordan are one-third of Palestinian levels, while water costs are only 8% of those in the Occupied Territories.
- \* Quality problems have developed, e.g., Valencia oranges from the West Bank; further reducing Palestinian competitiveness.
- \* Regulatory charges and fees have recently been increased by the Israeli authorities.

During the past several years, Palestinians have made major efforts to secure a foothold in the European Community (EC) market. This has been difficult for many reasons, not the least of which is the role of the Israeli state-owned agricultural marketing company, AGREXCO, through which most Palestinian agricultural products must be exported. In spite of the fact that the role of AGREXCO has changed recently, both within Israel (where it was seen as a statist monopoly) and with respect to Palestinian products, items such as Gaza flowers and strawberries continue to be exported through AGREXCO.

An example of the difficulty in direct export of agricultural products is provided by an incident involving eggplants grown in Jericho. Approximately one year after a decision by the Council of Foreign Ministers of the EC to treat the Occupied Territories as an independent unit (end of 1986), an agreement between Israel and the EC to permit direct Palestinian export to the EC was signed in Brussels. Israel, however, delayed the export of Jericho eggplants, insisting that such exports continue to go through AGREXCO.

Palestinians wanted to begin to develop their own "brand name recognition," believing that under the existing circumstances they suffered the usual fate of anyone who sells to a monopsonist: reduced sales at lower prices. In October, 1988, a protocol governing Palestinian exports to the EC was signed by all parties concerned.<sup>37</sup> Direct export commenced with a trial shipment of eggplants from the Jericho Marketing Cooperative to Marseilles, France during the 1988-89 season. Some 90 tons were shipped in Israeli refrigerated ships; approximately one-third of the shipment was destroyed en route. Israelis and Palestinians disagree on the cause of the destruction. Israelis assert that the goods were improperly packaged, while Palestinians charge sabotage. In any case, a second attempt was made during the following season, when 550 tons of eggplant and 20 tons of pepper were exported under the "Jericho" trade-mark. Marketing during the next year was disrupted by the Gulf War.

The above data indicate that the quantities of eggplants being exported to the EC constitute a very small percentage of total production. In 1988-89, eggplant exports to the EC constituted less than 1% of production; however, exports during the subsequent year were substantially greater, but still only half of what was formerly exported through AGREXCO. Many Palestinian commentators argue that exporters have lost money on marketing in the EC;<sup>38</sup> however, breaking into a new market and increasing market share is always costly. It is perfectly rational for a firm to incur losses for the initial years, if it is believed that the increased market share will recoup these losses later. It is also the case that the share of non-Israeli, non-Jordanian markets for Palestinian farm exports roughly doubled between 1985 and 1989 (from 6.0% to 13.5%). Palestinians also value the political benefits of their own, independent action very highly; such experience can serve as an important foundation for development of the agricultural sector under any political scenario.

Three factors constrain expanding exports to the EC: 1) Israeli restrictions, 2) Palestinian quality-control and marketing problems, and 3) sharp competition from other Mediterranean exporters. Israeli security inspections are widely cited as problematic; for example, it is often asserted that inspectors physically touch eggplant, which leads to bruising. Additionally, the length of the inspection

procedures causes delays which are extremely damaging to the viability of fresh produce exports. Palestinians also believe that the \$1,000 per 50 ton inspection fee is excessive.

Perhaps one of the most important recent developments in the export of Palestinian agricultural products has been the establishment of the Palestinian Trade Promotion Organization, based in the West Bank with affiliate offices in The Netherlands. This organization, founded in early 1992, is designed to facilitate and promote the export of Palestinian agricultural and industrial goods. The five agricultural NGOs involved are Palestinian Agricultural Relief Committees (PARC), United Agricultural Company, the Agricultural Cooperative of Jericho, the Beit Lahia Cooperative in Gaza and Cooperative Development Project (CDP).

#### **E. AGRO-INDUSTRY IN THE OCCUPIED TERRITORIES**

A 1983 survey of the Palestinian agro-industry (the most recent survey available) found approximately 450 agroindustrial firms, about 10% of the total firms in the Occupied Territories.<sup>39</sup> Of these, roughly 75% were olive presses. It is possible that there is an excess capacity in this industry and that the geographical distribution of plants is inefficient. Problems of quality control and adulteration are also reported. Although there were eight citrus packing plants in Gaza in 1983, only four were in operation; one plant used to operate on the West Bank, but is now closed. The capacity of these plants varies according to the standard of packing; i.e., for local market standards, 1,200 tons per eight hours, or, for EC market standards, 800 tons per eight hours. There are eight food processing firms (producing tomato paste, humus, fowl, falafel and soups) distributed in the main cities of the Occupied Territories (two in Hebron; two in Tulkaram; two in Jerusalem; one in Nablus; one in Gaza). Except for a small quantity of lentils, most of the inputs are imported. Olive pickling is carried out using traditional technologies and produces an output of uneven quality. There are two cigarette plants, which produced 60-70% of the local consumption before the Intifada using imported tobacco.<sup>40</sup> Given the importance of food processing for the agricultural sector (for export and as a means of utilizing excess produce), it is critical that more recent information be collected, analyzed and disseminated with respect to the food processing industry in both the West Bank and Gaza Strip.

Dairy processing was "very primitive and small scale" before the Intifada.<sup>41</sup> The Palestinian boycott of Israeli dairy products created favorable conditions for entry into this market, although the Palestinian industry is highly dependent on Israeli imports. For example, several researchers have estimated that the West Bank imported 50-60% of its dairy products in 1990. There are now 16 dairy plants in the Occupied Territories, with a total capacity of 50 tons per day. Actual output of dairy products, however, is closer to 17 tons per day. It is estimated that 80% of the input is bought from Israel. Most plants are run by cooperative societies which are operating their plants with equipment given as grants by NGOs, including American Near East Refugee Aid (ANERA). It is unclear whether such plants are, or would be, commercially viable without the grant to cover capital costs. It is equally unclear whether such plants would be competitive with even unsubsidized Israeli producers, in the event of relatively free trade between Israel and the Occupied Territories.

## **F. INPUTS AND TECHNOLOGICAL CHANGE**

Agricultural technologies are very location specific. Accordingly, local testing and adaptation is usually necessary when introducing a technique from other areas. Further, if the financial benefit of research cannot be realized by the private sector, then such research will receive scant investment. It is perhaps not surprising that many of the technologies which have diffused the most widely in Palestinian agriculture have been existing technologies (i.e., development and adaptation did not occur in the Occupied Territories), and the diffusion has been supported primarily by external donors, with private capital for lower-cost "technologies" such as pesticides being derived from the family owners and their friends.

Tractors have diffused rapidly in both the West Bank and Gaza. From a very low base, the number of tractors is now approximately 4,000 on the West Bank and over 700 in Gaza. On the West Bank, the most rapid rate of growth occurred during the 1970s (14% per year), while the absolute numbers expanded just as rapidly during the 1980s (approximately 2,000 tractors per decade). The proportion of land to tractors in the Occupied Territories is higher than for any other Middle Eastern country. In 1985 at 469.1 dunums per tractor (46.9 hectare per tractor), the West Bank's proportion of tractors was approached only by Egypt (54) and Turkey (49); the level on the West Bank far exceeded that in neighboring Syria (149) or Jordan (274).<sup>42</sup> In Gaza, the proportion was even higher: 317 dunums (31.7 hectare) per tractor in 1985.<sup>43</sup> Such density confirms field impressions and statements of local experts that the large majority of farmers have access to tractor services through relatively well-developed rental markets. It seems reasonable to view the distribution of tractors in the Occupied Territories as a labor-saving technological change, although there is evidence of inappropriate distribution of tractors, with an excessive amount of equipment being unused in some areas while there is a dearth of equipment in others.

There is relatively little information on the extent of other types of mechanization by farm operation. Land preparation is allegedly 90% mechanized, but field visits in February 1992 around Nablus belie this figure. It is also asserted that plant protection is largely mechanized. The pattern of mechanization in the West Bank and Gaza may conform to the world-wide pattern of mechanization, in which "power-intensive" operations such as hauling, ploughing and waterlifting are mechanized first, while mechanization of more "control intensive" operations such as fruit and vegetable harvesting and pest control occurs later.<sup>44</sup> In the first stage of mechanization, machinery is essentially substituting for animal power; labor costs are the determining variable only in subsequent stages. The number of animals used for draft in the Occupied Territories fell from 47,000 in 1968 to 20,400 in 1985.<sup>45</sup> However, the usual explanation for "animal displacement" is the rising opportunity cost of using farm animals for work instead of for meat and milk.

Fertilizer use also seems to have expanded rapidly in the Occupied Territories, although no reliable data are available for the past decade. It has been plausibly argued that other technological changes such as the diffusion of cultivation under plastic, hybrid seeds, growth hormones, weed killers and foliar sprays have been the most important type of technological change in Palestinian agriculture under the Occupation.<sup>46</sup> These land-saving technological changes have had a dramatic impact on crop yields. From 1966 to 1989, output per unit/land has increased by

51% in rainfed wheat, 171% in irrigated tomatoes (open cultivation), 250% in cucumbers and 153% in grapes.<sup>47</sup>

In the Occupied Territories, as elsewhere, individual farmers, agronomists, environmentalists and others face the conundrum of weighing the benefits of pesticide use against their long-lasting environmental and health effects. However, with few exceptions, there appears to be little concern for, or knowledge of, the environmental and health effects of pesticides, although they are widely used. Recently, efforts have been made by agricultural agents to reduce the use of pesticides through integrated pest management. Additionally, several of the U.S. PVOs have initiated activities directed towards the prevention of excessive pesticide use and the reduction of harmful health effects; for example, Save the Children Federation (SCF) has distributed an information booklet, American Mideast Education & Training Services (AMIDEAST) has conducted a literature search and has collected published information regarding pesticides (as a result of requests from Palestinian physicians) and ANERA requested, through an A.I.D. technical services contract, information concerning pesticides. The resultant 1970 report on pesticide use in the Occupied Territories revealed that a number of the pesticides used in the area contained dangerous chemicals and were not permitted for use in the U.S. Several were not permitted in Israel, although this was not confirmed.<sup>48</sup>

As noted above, many of these technologies were diffused from Israeli Jews to Israeli Palestinians and hence to the West Bank Palestinians. The diffusion of new technologies from the highly technologically sophisticated Israeli agriculture to Palestinian farmers has certainly been a great benefit to the latter. Input suppliers often acted as "private extension agents," offering follow-up consultations and advice on use. Unfortunately, however, it is likely that the process of technological change has slowed in recent years because of political obstacles to the diffusion of information, the absence of a public-sector research system and the acute shortage of capital and credit. These and other constraints to development of the agriculture sector are described in Part V.

## **IV. INSTITUTIONAL ARRANGEMENTS**

### **A. PALESTINIAN PUBLIC AND PRIVATE SECTOR ORGANIZATIONS**

#### **A.1 Public Sector Agencies**

Formal public sector institutions in the Occupied Territories come under the Department of Agriculture (DOA) of the CIVAD. Although these institutions made important contributions to the diffusion of technology in the West Bank in the early years of occupation, their budgets and activities have dwindled since the late 1970s. In many areas, they are now essentially defunct, with both politics and economics playing a role in this demise.

Public agricultural extension activities were quite important in the early 1970s; the 70 agricultural engineers and technicians who served as extension agents (all of whom were Palestinian) received training in extension, experimental station work, services and management. These trained personnel implemented several annual

programs such as field and farm demonstrations and agricultural "fairs" (e.g., one for grapes in Hebron). These activities contributed to the rapid rate of technological change and output growth during the decade of the 1970s.

The decline of the extension service began in the late 1970s and accelerated in the early 1980s. The change in Israeli government in the late 1970s and runaway inflation in Israel in the early 1980s contributed to the decline in funding for the DOA program in the Occupied Territories. In the early 1970s, a total of approximately 500 Palestinians worked for the DOA in the West Bank; i.e., 70 were agricultural engineers, and 142 were extension agents. By 1987, there were only 161 employees, of whom 55 were extension agents or worked in experimental stations. Although these agents and other Palestinian DOA employees are generally considered knowledgeable with respect to the agricultural sector in the Occupied Territories, their work is severely hampered. For example, transportation is critical for extension agents, but the number of cars operated by the DOA in the West Bank decreased from 82 in 1972 to 8 in 1987, effectively all but nullifying the extension activities of the remaining agents.

During the Intifada, CIVAD/DOA budgets dwindled, and services such as home economics, artificial insemination, soil and water laboratories and many agricultural experiment stations were slashed or eliminated altogether. The total expenditure of the Department between 1989 and 1991 remained at approximately \$1.7 million dollars (assuming 2.4 NIS = \$1.00); of which just under \$28,000 was devoted to extension, training, research and statistics, all of which are critical to sustained development in the agricultural sector. The total budget for 1992 was increased to \$2.2 million. No data were available for previous years; this would have allowed for direct comparisons of expenditures in total public expenditures for the DOA over time. The provision of veterinary services provides a revealing contrast with research and extension. Funds continued to be allocated to this sector, perhaps because the spread of animal diseases would impose large negative externalities on Israeli livestock producers. However, Palestinian farmers also obviously benefit from such services. Forestry services have been almost entirely taken over by the Jewish Agency, although the DOA allocated just over \$36,000 for "forest maintenance" in the West Bank in 1991.

Research is a crucial public sector input to agricultural growth and development. The five agricultural experiment stations which had been set up by the Jordanians (at Fari'ah, Asker, Arroub, Beit Qad, and Qabatieh) were placed under the supervision of Israeli researchers, primarily those at the Volcani Institute. Research results of this institute were published in Hebrew; however, Arabic translations were often not prepared. The number of employees at the experiment stations steadily declined, from 114 in 1972 to 37 in 1979. Increasingly, stations engaged primarily in commercial agriculture in order to cover their operating costs. Only 5% of the stations' budgets were actually devoted to research activities. Research ceased altogether in 1988/89. There is now no public sector research activity supporting agriculture in the Occupied Territories. This has significant impact on the ability of the agricultural sector in general, and the Palestinian farmer individually, to remain competitive and ensure efficient and environmentally-safe use of the scarce land and water resources in the area.

## **A.2 Palestinian Organizations**

*Cooperative Societies.* Cooperatives--local membership organizations--have been seen by development specialists as having potential for enhanced productivity at the local level. However, the history of cooperatives in developing countries has not been laudable in this respect, with some exceptions. Uphoff has identified four types of cooperatives:<sup>49</sup>

- 1) credit unions and savings and loan associations, important as sources of finance where other financial institutions are not available, as is the case in the Occupied Territories;
- 2) labor cooperatives;
- 3) consumer cooperatives or buying clubs, including input supply cooperatives (important for agricultural producers in particular) and marketing cooperatives (which encourage the use of new technology and can lead to increased production because of reduced cost resulting from shared labor and infrastructure); and
- 4) producer cooperatives, which is a "unit of production parallel to the household, private company or state enterprise".<sup>50</sup>

Many of the cooperatives which exist in the Occupied Territories fall within the latter two categories.

Cooperatives in some form have been encouraged in the Occupied Territories since the British Mandate, and their recent role in Palestinian agriculture cannot be overemphasized. For this reason, somewhat more extensive detail is included with respect to these institutions than to others which are involved in the agricultural sector.

Most existing cooperatives can be traced back to the Jordanian era. In December, 1966, there were 176 agricultural cooperative societies with just under 9000 members in the West Bank.<sup>51</sup> Although their activities were officially halted by the Israeli authorities after 1967, they remained in existence. After 1976, the Jordanian Cooperative Organization (JCO) and local Palestinians sought to revive cooperatives as a mechanism to promote development. Cooperatives were assisted by the formation of the "Joint Palestinian-Jordanian Committee" to promote "steadfastness," and by funds and technical assistance from donors. In the case of A.I.D., these funds have been channeled primarily through ANERA and CDP. The Israeli authorities also reportedly have encouraged the formation and work of cooperatives.

There are contradictory reports concerning the total number of agricultural cooperatives in existence in 1992; estimates range from more than 200<sup>52</sup>, to 352<sup>53</sup>. There seems to have been a surge of registrations recently. Awartani asserts that in 1984 there were about 30 functioning agricultural cooperatives, about half of which were olive press associations.<sup>54</sup> In 1987, eight marketing and canning cooperatives (in Nablus, Tulkaram, Qalqiliah, Salfeet, Jenin, Ramallah,

Hebron and Jericho) formed the "Agricultural Cooperative Union," with their headquarters located in Nablus. The Jericho Cooperative has since withdrawn from the Union.<sup>55</sup>

Much controversy surrounds these cooperatives. One area of agreement seems to be that although the Israeli authorities are widely believed to have tried to use the cooperatives for their own political purposes, these attempts largely failed.<sup>56</sup> The fundamental critique holds that a significant proportion of all donor funds for the Occupied Territories is provided to cooperatives, which are headed by powerful local individuals who may not always have made the most appropriate use of the funds, nor distributed them in the most equitable and effective manner.

Palestinian familial and clan relationships have reportedly played a part in the way cooperatives have functioned in the Occupied Territories. These relationships, which historically have had a positive impact on development in the West Bank and Gaza Strip through an assurance of support networks in times of distress and cooperation in agricultural endeavors, may actually militate against broad-based cooperation across clans and geographic areas. On the one hand, the positive aspects of the social structures may not have been adequately utilized and, on the other hand, the traditional patronage networks may have been supported indirectly by development assistance. It is also postulated that when donors provide grants, rather than loans, to cooperatives, it gives them an unfair competitive advantage, as does the provision of expensive machinery (e.g., tractors, dairy equipment). Because cooperatives need not repay the grants (or pay for the equipment), their members have, in effect, access to highly-subsidized capital—an extremely scarce factor of production in the Occupied Territories. Moreover, it may be that the type of projects funded by donors through cooperatives have encouraged their development as what some believe are essentially, family-controlled (or shareholding) for-profit companies in competition with other private sector organizations. Finally, it has been reported that much of the equipment provided to cooperatives is inappropriate (non-functional), or unused (in part because it is inappropriate) and that the cooperatives have not been extensively involved in the decision-making process vis-a-vis planning for donor funding of projects and equipment purchase.

Proponents of cooperatives<sup>57</sup> argue that cooperative societies are as democratic as any set of Palestinian institutions can be under the present circumstances, and this is the criterion by which they should be judged. Elections for cooperative leaders have been held throughout the West Bank recently, with assistance being provided to ensure that, insofar as possible, the election process encouraged the participation of as many members as possible. In the case of one local election, landless sharecroppers in Jericho reportedly won half of the seats on the Board of Directors. Proponents also suggest that, because the cooperatives charge interest on loans to their members, the cooperatives do not constitute unfair competition with the private sector. Moreover, they assert also that various equipment (e.g., tractors for deep ploughing or bulldozers for land reclamation) were unavailable or prohibitively expensive in local markets and that cooperatives served as a readily available mechanism for funding the purchase of this much-needed equipment. Cooperatives have also performed a useful function with respect to product marketing and export. For example, they arrange for "Certificates of Origin" for transshipment of agricultural goods to and through Jordan and improve



utilization of telecommunications linkages with Amman as a means of avoiding the costly and time-consuming trip to Amman to obtain marketing information. The Jericho Cooperative in the West Bank and Beit Lahia Cooperative in the Gaza Strip have also promoted horticultural marketing in the EC, with assistance from donors.

Grants of equipment to cooperatives do constitute subsidized credit, which then results in their having a competitive advantage over others. Given this reality, donors need to be consistent in formulating policies and programs to provide credit for agricultural development. The same is true for support for other types of cooperative ventures. Assertions that cooperatives which are not successful (effective and/or efficient) will become non-existent ignore the reality that so long as grants continue to flow, money-losing activities can continue to be sustained. Donors need to work with the cooperatives to determine in what ways the cooperatives can make the most effective and efficient contribution to the development of the agricultural sector. For example, given the high level of tractorization in the Occupied Territories, it seems highly unlikely that tractor rental markets were so deficient that small farmers could not have acquired these services without cooperative assistance. This begs the question of whether cooperatives were the most appropriate funding vehicles for the provision of tractors, or if such funding could have been better planned. However, given political and other realities, it may have been one of the few options.

*Non-Governmental Organizations (NGOs).* There exists a number of Palestinian NGOs which are active in the agricultural sector and which contribute importantly to its development, even if on a relatively small scale. These institutions include the United Agricultural Company, the Palestinian Agricultural Relief Committee (PARC), the Agricultural Services Committee, the Association of Agricultural Engineers, Land and Water Institute, the Institute for Technological Research, the Palestine Hydrology Group and Ma'an, The Development Work Center. Additionally, the Arab Thought Forum (ATF) has been involved in preparing reports and other documents specifically related to agriculture and holding seminars and workshops on various related issues, although the ATF is not specifically an agricultural institution. Local development and credit organizations which have supported agricultural projects include the Economic Development Group, the Arab Development and Credit Company and the Arab Technical and Development Corporation. These institutions are assuming an increasingly important role in the agriculture sector, in particular in the absence of public sector support infrastructures. Although their staffs lack adequate recent training and exposure to technological developments and new knowledge, they are in the forefront of agricultural research and development with respect to marketing and farming systems.

Importantly, several of these organizations are working cooperatively on specific development projects. For example, PARC, the Agricultural Engineers Association and the Arab Thought Forum have begun to develop an Agricultural Data Bank which will collect, store and disseminate production, marketing and other agricultural information. In 1991, four organizations formed the Agricultural Coordinating Committee (ACC) to identify particular problems in the agricultural sector, coordinate responses to these problems and initiate the formulation of short- and long- term plans for the agricultural sector. The four organizations are

the Agricultural Engineers Association, the PARC, the Center for Agricultural Services and the Union of Agricultural Work Committees. Individual farmers and agricultural engineers are also actively involved in the committee.

**Universities and Agricultural Schools.** An-Najah, Hebron and Bethlehem Universities offer technical services to farmers. After years of application, Hebron University was permitted to start a College of Agriculture in 1987, but the closure of the university from late 1987 through 1991 forestalled its development. Some five students have received AMIDEAST-funded scholarships for study abroad (U.S. and Jordan). The university has also established a Center for Community Service, in which the university's 10 agricultural engineers operate an extension service. The university hopes to expand the number of staff to 30. These activities, largely concentrated in the area around the city of Hebron, include collecting data, and writing and distributing leaflets on modern practices for olive cultivation, poultry production and processing, and apiculture. An-Najah University in Nablus also conducts some agricultural research, especially in the area of agricultural economics. Each of the universities has examples of successful linkages between the university-based researchers and area farmers, with researchers providing specific information which has resulted in improvements in crop production and livestock management.

There are also several secondary-level schools for agriculture such as the Khadouri School in Tulkaram and one operated by the Arab Development Society in Jericho. The first is public, and therefore falls under the authority of CIVAD, while the second relies on private funds. The Khadouri School was established during the Mandate, and prior to 1967, operated a three-year community college. Reportedly, the resources available to the school and the quality of the student body has steadily declined, until now its students are at relatively low levels academically, prior to admission to the school. It also can afford to offer only a few agricultural training activities. However, it owns 400 dunums of land as well as several buildings. Its faculty also has considerable experience in training at this educational level, although, as with other educational institutions, they lack continuing education and the requisite laboratory and other facilities to provide quality education.

The Arab Cooperative Society is a trade school established in Jericho in the early 1950s. They train students in a variety of agricultural activities on their 2,000 acre farm, using buildings which were constructed in the 1950s with assistance from the Ford Foundation. Given the land, buildings and reputation of the institution, it would be especially suitable to establish connections between this institution and some American land grant college to upgrade the skills of the staff.

## **B. DONOR INVOLVEMENT IN THE AGRICULTURAL SECTOR**

The agricultural sector has been one of the primary beneficiaries of donor assistance to the Occupied Territories over the years. For example, of the more than \$202 million in assistance from donors other than the Arab States for projects being implemented in 1991 and planned for 1992, \$17,352,938 was designated directly for agriculture. This does not include water and sanitation projects, which benefit agriculture, and funding for projects which support the agro-industry.

One such project provides just over \$9 million for a citrus processing plant in the Gaza Strip.<sup>58</sup> Much of the donor funding has been channeled through the United Nations Development Program (UNDP), which has carried out primarily large-scale projects, although they also have small grants programs for projects such as drip irrigation and apiaries. United Nations Relief and Works Agency for Palestinian Refugees in the Near East (UNRWA) also provides loans to farmers for small-scale projects.

A.I.D., which has provided a large proportion of the donor funding in the agricultural sector, has supported agricultural projects through four U.S.-based private voluntary organizations: 1) ANERA, which has provided extensive support to Palestinian cooperatives and municipalities (the latter for development of support infrastructure, such as cold storage) and played a key role in supporting veterinary services, among other activities; 2) Catholic Relief Services (CRS), which has had a rural development program emphasizing small-scale agricultural projects and the construction of agricultural roads; 3) the Agricultural Cooperative Development Institute (ACDI), which has supported the Cooperative Development Project, providing training, technical assistance and other services primarily to cooperatives, and which has supported food processing plants; and 4) Save the Children Federation (SCF), which has emphasized small-scale agricultural projects and which has more recently focused on integrated development, linking agricultural, water and sanitation and health projects.

Until recently, minimal effort has been made to coordinate the extensive assistance provided by donors or to determine the impact of donor-funded projects. In the absence of a central planning body, other than the Israeli government, such coordination is understandably difficult. However, Palestinians are increasingly interested in medium and long-term planning for this sector, in particular, given the scarcity of land and water and the concern for protecting these natural resources.

## **V. CONSTRAINTS TO DEVELOPMENT**

In addition to the general constraints on development in the Occupied Territories, several constraints particularly affect the agricultural sector. These are briefly summarized in this part of the report.

### **A. CAPITAL MARKETS**

Capital markets in the Occupied Territories are weak, fragmented and underdeveloped. This is especially problematic for agricultural development because the level of risk in the Occupied Territories is very high. Both output and price are highly variable and dependent on both natural phenomena and bureaucratic factors uncontrollable by the Palestinian agricultural sector. Olive production, for example, is subject to very large output fluctuations, but prices do not typically vary inversely with production because of the openness of the Palestinian economy to Israeli imports. West Bank markets may be "balkanized," whereby travel restrictions and lack of information lead to large spacial price differences across markets. Farmers are also subject to unanticipated political

shocks, which have recently been very severe. All farming is risky, but that in the Occupied Territories is especially so.

One of the principal functions of capital markets is to diffuse risks, but such markets are essentially non-existent in the Occupied Territories. Nor are there well-developed futures and forward markets which could permit farmers to hedge their production. There is no system of crop insurance, which, although expensive, is common in the farm sectors of advanced industrial countries, including Israel. The only banks, Cairo-Amman Bank (West Bank) and Bank of Palestine (Gaza), are very conservative in their loan policies, subject to various administrative restrictions and perceive themselves to be operating in an extremely risky environment. Rural credit in the usual sense simply does not exist in the Occupied Territories.

The only mechanisms for diffusing risk are sharecropping and family networks. The former is powerless in the face of a weather disaster (both cropper and land owner lose heavily), while family network systems have been placed under increasing stress with the large-scale return of Palestinian workers from the Gulf. The absence of efficient, risk-sharing mechanisms and institutions to mediate between savers and investors places an increasingly severe constraint on the diffusion of modern technology in the agricultural sector of the Occupied Territories.

## **B. BUREAUCRATIC POLICIES**

Israeli bureaucratic policies which have had the most negative impact on the development of Palestinian agriculture are principally land seizures, crop removal (e.g., olive trees), curfews and other travel and transportation restrictions, water restrictions, subsidies for Israeli farmers and differential trade regulations, which protect the Israeli market but not the Palestinian one.

Curfews, in particular, take a serious toll on farm activities, often applying to entire villages and interfering with the timeliness of farm operations such as harvesting, pruning and land preparation.<sup>59</sup> Land seizures and tree cutting similarly have a serious effect; estimates of the number of trees removed range from 60,000 to 100,000.<sup>60</sup>

Travel restrictions are particularly onerous; they impede physical arbitrage and substantially reduce access to information for both marketing and agricultural development. It is commonly asserted that local Palestinian markets are highly fragmented and balkanized. Theoretically, the fact that travel restrictions appear to a merchant to be random events must impede physical arbitrage (a curfew may be announced suddenly, a truck driver may be detained, a cargo delayed or a road closed arbitrarily). Another consequence of these "unanticipated negative shocks" is the destabilization of prices, which has reverberating effects throughout the agricultural sector and the economy.

Palestinians are also isolated from sources of information on new technologies and developments in agricultural research. In this respect, travel restrictions and hindrances to expansion of telecommunications networks are especially harmful.

The best way to learn about new technologies is to see them in operation, but this has become very difficult for Palestinians, particularly during the period 1987-1991. Palestinian agricultural specialists and growers of rain-fed cereals and other cereals, for example, could greatly profit from visits to the International Center for Agricultural Research in the Dry Areas (ICARDA).

It has been suggested that the Intifada, and Israeli reactions to it, adversely affected agriculture. While it would be informative to compare pre-Intifada data with more recent data dealing with a wide range of indicators for this sector in order to verify this assertion, such data are scarcely available. One clear effect is that the supply of labor to agriculture has increased. The revoking of many young men's permits for work in Israel has played a key role in this regard. The number of workers employed in Gaza agriculture may have almost doubled from 1987 to 1991 (from 8,600 to 16,000). With no corresponding increase in demand, real wages in agriculture have fallen in the last few years.<sup>61</sup>

### **C. INADEQUACY OF MARKETING AND OTHER FARMING SYSTEMS**

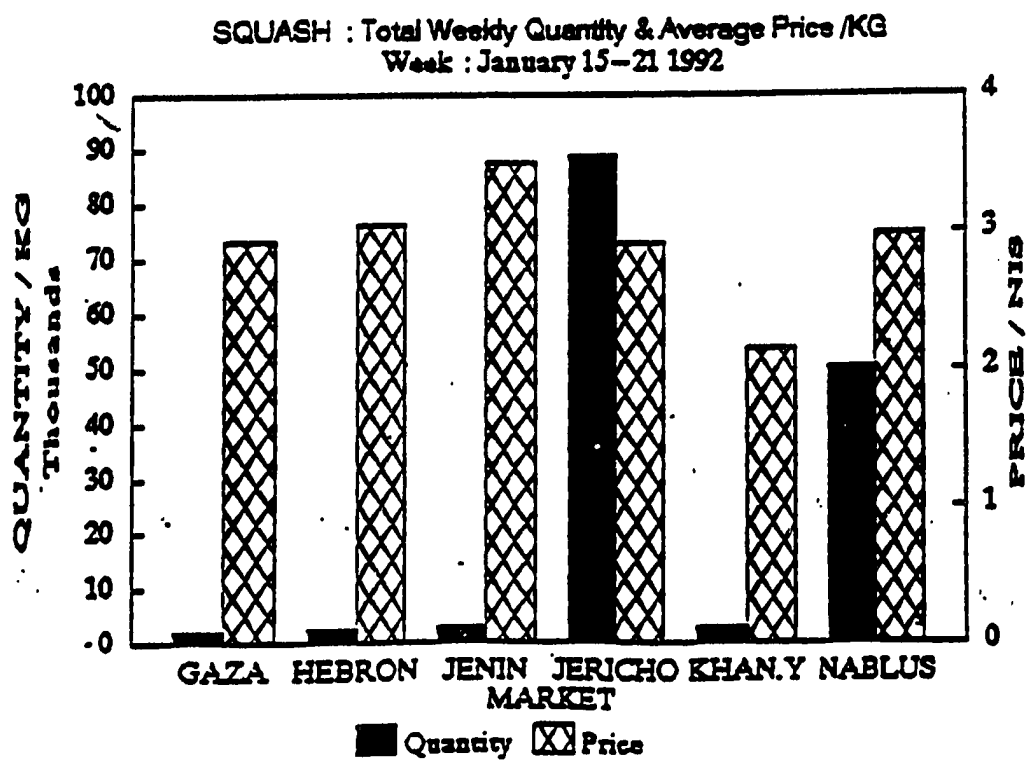
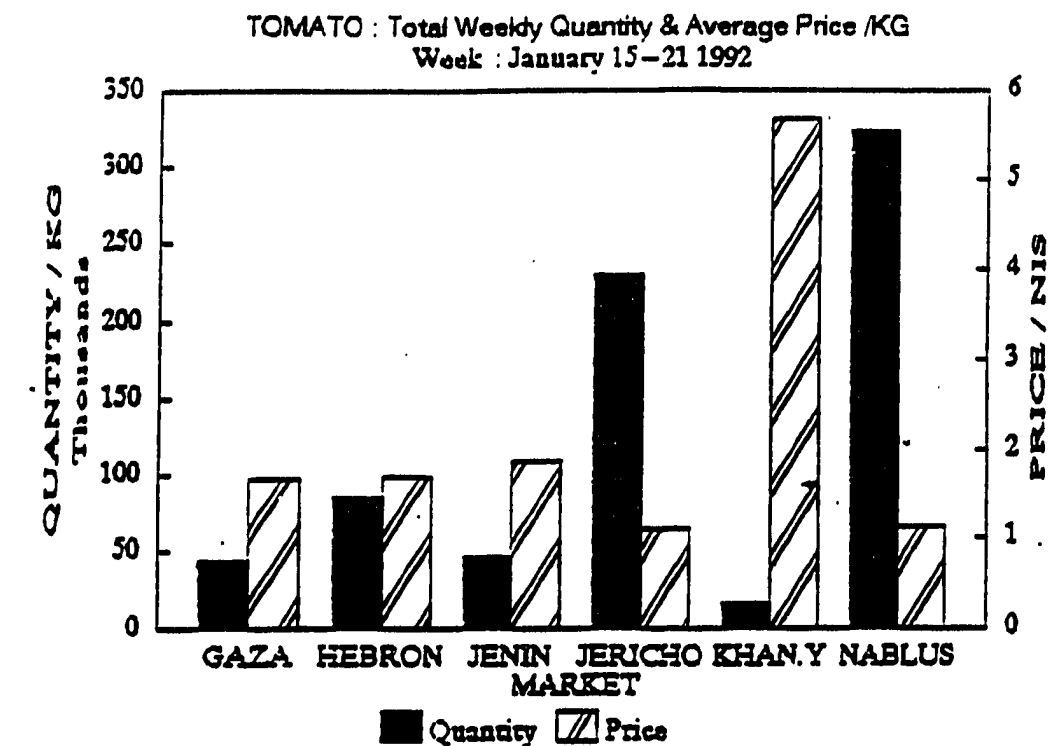
The absence of an organized system of marketing agricultural products is one of the most critical constraints facing the agricultural sector in the Occupied Territories. Packing, handling and transportation technologies are quite rudimentary and out-of-date by international standards. Also, many Palestinians do not have the kind of training which a modern marketing system would require.

The European Community (EC) is potentially a critical market for Palestinian agricultural products, but the absence of adequate marketing and farming systems (in addition to the bureaucratic constraints described previously) hinder the ability of Palestinians to export to this market. For example, Palestinian products too often fail to conform to the demanding standards of EC consumers and therefore lose out to Israeli and Turkish competition. The marketing system remains quite underdeveloped in both technological and human resources. Grading, packing, cooling and market information systems are either deficient or absent altogether. Successful marketing in the EC will require an entire system which is geared to rapid transactions and transportation, from Jordan Valley field to European supermarket. This is especially necessary, since other Mediterranean producers, notably Israeli, Turkish and Moroccan exporters, already have such systems and are working continuously to improve them. There is a potential for expanded exports to the EC, and development of the (fungible) technologies and skills which such growth will require, is a promising area for U.S. assistance. However, increased Palestinian horticultural exports to the EC will not be accomplished easily, and such activity is no panacea for the problems of agriculture in the Occupied Territories. An improved marketing system is a very high priority for the resumption of Palestinian agricultural development.

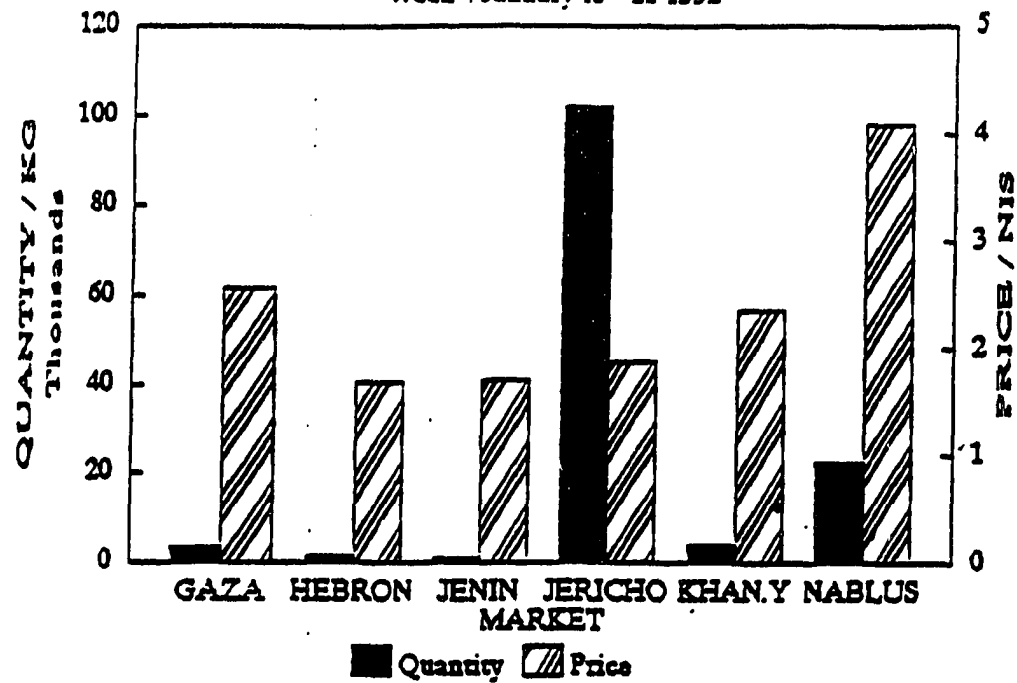
It is also asserted that merchants lack information on prices in various alternative markets, which may contribute to the fact that prices reportedly vary greatly from one local market to another. A graph prepared by ACDI (see Figure 8) shows some substantial market price differences for four types of vegetable crops within the West Bank; however, these may be due to other factors, including, for example, transportation costs.

Figure 8

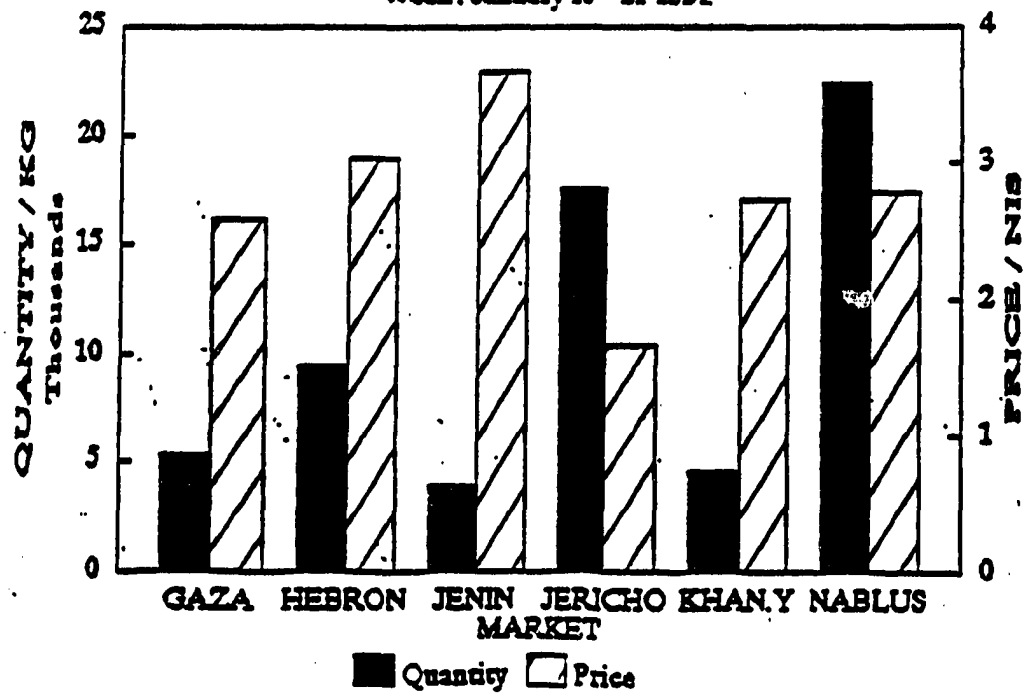
AGRICULTURAL GOODS MARKET INFORMATION BY QUANTITY & PRICE



**EGGPLANT : Total Weekly Quantity & Average Price /KG**  
**Week : January 15-21 1992**



**CUCUMBER : Total Weekly Quantity & Average Price/KG**  
**Week : January 15-21 1991**



Source: Cooperative Development Project (CDP); 1992.

Only a detailed marketing study would provide adequate and reliable data to determine the causal factors related to price differences. To remedy the lack of pricing and other information essential for effective marketing of agricultural goods, Palestinian NGOs, including a consortium consisting of the Agricultural Engineers Association, the PARC and the Union of Agricultural Cooperatives, have been developing a "market information system." These embryonic efforts have been generating data but have only lately begun to disseminate the information widely to Palestinian farmers. Impediments to collective action within rural communities in the Occupied Territories further constrain effective responses, including, for example, the ability to collectively respond to the threat of insects.<sup>62</sup>

Several of these bureaucratic constraints are also discussed in Appendix I to this report and in the companion sectoral report, "Water and Sanitation in the Occupied Territories." This latter report includes a detailed discussion of water resources in the West Bank and Gaza Strip, including the role of the GOI with respect to restrictions on availability and subsidies for Israeli farmers and settlers.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

### **A. DEVELOPMENT OPPORTUNITIES**

As with all of the sectors, any strategy of development assistance to Palestinian agriculture must include both immediate short-run relief or development projects and those designed for medium and longer-term development. The need for the former is apparent in the drastic decline in per capita income and by reports of the damage caused by the recent winter's storms. Such short-term efforts take the current political situation as a given. Medium-term development plans do not assume political change, but include that as an option.

Ideally, a relief program would generate employment and incomes for the most needy while simultaneously contributing to medium-term development goals. While some type of "food for work" program would seem to be appropriate, a recent report on Food and Nutrition in the Occupied Territories found that it would not be feasible in the West Bank and Gaza Strip.<sup>63</sup> However, other types of relief programs, including for example, construction of agricultural roads and repair of storm damage such as greenhouses, orchard walls and weirs can be used to create useful infrastructure as well as jobs (albeit short-term).

Improvements in marketing and farming technology are urgently needed, can be initiated immediately and have short-, medium- and long-term impacts. They are also closely connected. Marketing is clearly a critical bottleneck to renewed growth of the sector; equally clearly, the process and pace of technological change needs to be revived, but both local and export market opportunities could be expanded considerably if human and physical capital were upgraded. Packing, grading, and sorting knowledge, techniques and equipment could be greatly improved. Improvements must also be sought in greatly enhanced market information systems and augmented business skills, from advertising to cost accounting, which successful competition will require. Finally, as with other exports, the U.S. should take steps to remove any existing trade restrictions which inhibit the direct importation of Palestinian products to the U.S.



Improved marketing requires changes in farming systems, however, improved farming systems will not be adopted as long as marketing bottlenecks persist. With respect to farming systems, varieties which are appealing to discriminating European consumers must be introduced, on-farm transport must avoid spoilage and damage and the application of chemicals must be carried out in a way which is compatible with the consumer protection standards which are found in such markets. Risk minimization strategies and improved pest control are two critical areas for research and extension. Both the West Bank and Gaza Strip, but, in particular the latter area, urgently require assistance in the identification of crops which both economize water and have marketing potential. Given the seriousness of the Gaza water situation and the dependence of so much of the Gaza economy on farming, such assistance should have a high priority. This in no way contradicts the proposition that Gaza's future must be largely an industrial one. Such a transition could be eased by the development of appropriate water-saving crops and the diffusion of water-saving technologies.

Many donor countries have extensive experience in agricultural research and extension services, both of which are urgently needed in the Occupied Territories. Various mechanisms should be utilized to upgrade the Palestinians' skills, thereby improving the marketing and farming systems. Such mechanisms include, for example: 1) short courses both in and outside of the West Bank and Gaza; 2) exchange programs between Palestinian universities and institutions in other countries; and 3) dissemination of expertise found in private sector agricultural companies. However, while these resources should be utilized where appropriate, Palestinian universities and technical schools require strengthening, building on their important contributions over the years. These institutions require additional facilities, especially laboratories, as well as improved training for staff. Over time these institutions have become somewhat duplicative in terms of courses and services (understandable under the current travel restrictions). In planning for projects designed to strengthen these institutions, donors should be cognizant of such duplication, taking care to ensure that resources and services are appropriately distributed.

The question of an "appropriate" role for cooperatives in the Occupied Territories continues to be debated, as it is in developing as well as upper income countries, in particular given interest in promoting the private sector. Donors have funded cooperatives which "compete" with individual entrepreneurs in other countries--such cooperatives abound in the U.S. (e.g., the fuel cooperatives which were developed in the early 1980s). The more "traditional" functions of cooperatives, as providers of supply and marketing "infrastructures" (e.g., seed and livestock food cooperatives), may no longer pertain, but a clearly-defined role in the changing economic and political structure of the Occupied Territories is unclear. For the present, development assistance to agricultural cooperatives should focus on upgrading their technical capacity through such activities as assisting in computerization of their information resources and improving the capacity of their staff to provide assistance to members.

In designing development plans and programs, it will be important to ensure that, in supporting agricultural development, the focus is on projects which ensure that

the agricultural sector contributes to the overall economy. In this regard, it is critical that donor assistance be utilized to assist Palestinians in transforming agriculture into a modern, water-conserving sector integrated with the global economy. In Gaza, it is particularly important that, at least over the short term, donor support be provided to farmers in a shift to water-saving technologies and crops. Over the longer term, industrial expansion in the Gaza Strip should replace agriculture as a focus of development, given the severe water shortage. Donors can contribute to a positive role for agriculture in the economy of the Occupied Territories by ensuring that projects within the sector have the potential to be sustainable, as well as by fostering linkages between and among related sectors, including, for example, industry (for food processing), water and sanitation (for appropriate and efficient use of water resources) and health (to prevent agricultural illness and injury). In this way, it will be less likely that agriculture will become a "brake" on economic development in other sectors, which could occur given the historic importance of agriculture for the Occupied Territories.

## **B. CONCLUSIONS AND RECOMMENDATIONS**

Table 1 summarizes conclusions with respect to agricultural sector development in the West Bank and Gaza Strip, as well as related recommendations. The recommendations are intended as examples for those involved in development planning for the Occupied Territories. They should be considered in light of the discussion on overall development opportunities in the Occupied Territories, *Visions of a Sustainable Future*--Appendix II to this report.

**TABLE 1**

**SUMMARY CONCLUSIONS AND RECOMMENDATIONS:  
AGRICULTURAL DEVELOPMENT**

**Conclusions**

1. While the agricultural sector continues to play an important role in the economy of the Occupied Territories, its productivity and potential for short and long-term contributions are hampered both by bureaucratic policies of the GOI and by structural inadequacies in Palestinian quasi-public and private institutions, including inadequate farming and marketing systems. The sector is also in need of short-term relief, both with respect to the sector itself and as a means of jobs creation for the economy as a whole.

2. The lack of planned, coordinated donor assistance in agriculture has contributed to inefficiencies in the agricultural sector.

**Recommendations**

1.1 Short-term relief programs should be initiated, including the construction and/or repair (as appropriate) of agriculture feeder roads, land reclamation and repair of storm damage not already supported through donor-supported emergency programs.

1.2 Donors should provide technical assistance, short-term training and other support to the Palestinian quasi-public and private sector institutions responsible for, or engaged in the agricultural sector to improve their capacity to plan, manage and evaluate programs and projects.

1.3 Donors should provide technical assistance, short-term training and other direct support to private sector Palestinian organizations to expand and/or improve Palestinian domestic, regional and international agricultural marketing information systems (e.g., such as those currently being developed by the consortium of agricultural organizations) and support systems (e.g., grading and packing and cold storage). This support should be coordinated, wherever possible and appropriate, with other sectors (e.g., industry, with respect to food processing).

1.4 GOI policies that hamper Palestinian productive capacity and exports should be eliminated or relaxed.

2.1 Donors should work closely with Palestinian organizations to ensure, as much as possible, that all agricultural projects are coordinated, avoid unnecessary and inappropriate duplication and are reviewed taking into account at least minimal criteria for selecting projects, including environmental impacts and cost-efficiencies.

3. As is true with agricultural policies in other countries and jurisdictions, projects in the Occupied Territories designed for relatively short-term gain (e.g., investments in pesticide and water-intensive agricultural production) have short-, medium- and long-term negative impacts.

4. Agricultural research and extension services and information sources are wholly inadequate throughout the Occupied Territories and non-existent in some areas; this severely hampers the ability of the Palestinian agricultural sector to meet domestic and export market needs.

3.1 Technical assistance, training, commodities and other support is needed for the design and implementation of irrigation systems which make the most appropriate use of scarce water resources.

3.2 Technical assistance, training, commodities and other support are needed for the development of new or improved crop varieties and livestock production methods which recognize environmental imperatives (e.g., conservation of scarce water and improved land use) as well as market factors (e.g., quality and variety requirements for the EC market).

3.3 The development of the Palestinian industrial and service sector in the Gaza Strip should be encouraged, in lieu of expansion of the agricultural sector, given the severe water shortage in that area.

4.1 Donors should provide technical assistance, short-term training, commodities (e.g., microcomputers and related software) and other support to Palestinian quasi-public and private sector institutions for expanded research and extension services.

4.2 Strengthen linkages between Palestinian universities and private sector agricultural institutions and foreign governmental agencies, universities, farmers' organizations and private sector agricultural research and development institutions.

4.3 Donors should provide technical assistance, short-term training, commodities (e.g., microcomputers and related software, published and unpublished documents) and other support for the development and/or expansion of an agricultural data and information clearinghouse in the Occupied Territories.

4.4 Linkages among Palestinian research institutions in the agricultural sector and those in other sectors (e.g., water and sanitation and health) should be encouraged.

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# **APPENDIX I**

## **CONTEXT OF DEVELOPMENT IN THE OCCUPIED TERRITORIES**

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## CONTEXT OF DEVELOPMENT IN THE OCCUPIED TERRITORIES

This appendix describes the overall context in which development opportunities exist in the Occupied Territories, including land size and population data, governance, recent economic trends and the role of donors in development activities. As necessary, these factors are discussed in more detail in each of the reports included in the full set of sector analyses for the Occupied Territories. For example, population data are discussed more fully in the companion report on Health, and economic trends are described in the separate reports on Finance and Credit and on Trade.

Several parameters of this report should be clarified. The term "Occupied Territories" is used to describe the geographic area of the West Bank and Gaza Strip as it is the accepted term for the U.S. government and U.N. agencies. It refers only to the West Bank and Gaza Strip, not to the Golan Heights or the Israeli security zone in Lebanon. The term Judea and Samaria is used when quoting Israeli statistics or other references, as this is the designation used by the GOI for the West Bank area. Unless otherwise stated, the West Bank statistics, information and recommendations presented in this report include East Jerusalem. Where necessary, East Jerusalem is referenced separately, for example in cases where data have clearly excluded East Jerusalem. It must be noted at the outset that the statistical data available from the GOI (i.e., those published in the Statistical Abstracts and other governmental sources) which can be used to numerically describe the sectors do not include East Jerusalem. This significantly skews the data and inhibits analysis of trend data which could be used for economic planning. Moreover, as Benvenisti has suggested,

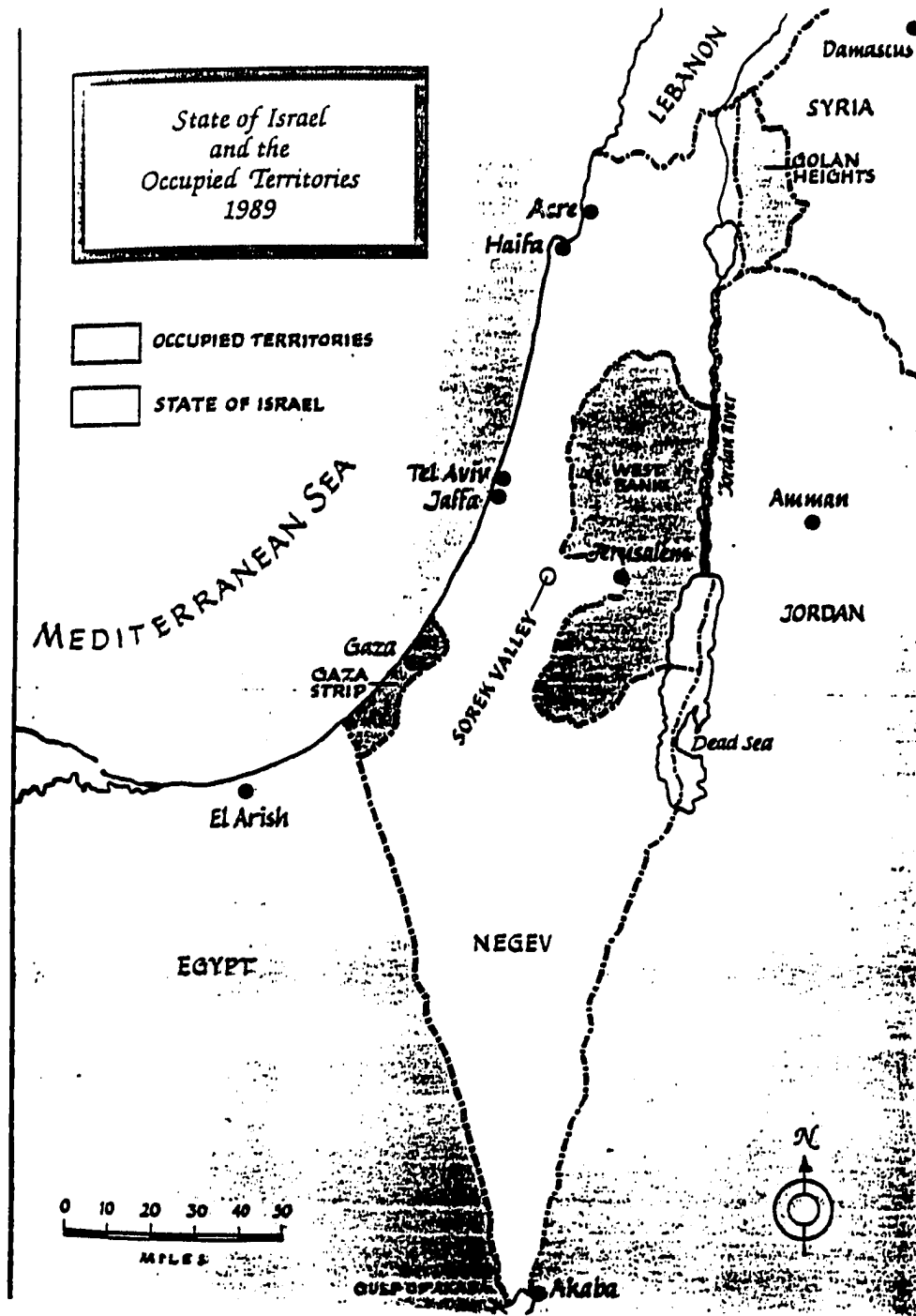
"For statistical purposes the West Bank and Gaza Strip are considered by Israel's Central Bureau of Statistics to be units independent of Israel. Economic activity there is investigated and reported as though it constitutes a 'national economy' united with Israel in a 'common market.' The official reporting of GDP, GNP, exports and imports and balance of payments of the territories is, however, inaccurate at best and misleading at worst. The daily, complex, economic interaction over the nonexistent 'green line', lacking any effective monitoring and control, calls the reliability of the statistics into question."<sup>1</sup>

Unfortunately, because of the serious impediments faced by Palestinians and others in conducting empirical studies in the West Bank and Gaza Strip, most studies of the Occupied Territories depend primarily--and necessarily--on GOI statistics, notwithstanding their limitations.

Finally, although Israeli settlements in the Occupied Territories have considerable impact on economic and social development in the area, only minimal data and information are available with respect to either plans for settlements or specific factors pertaining to individual sectors (e.g., infrastructure and industry).

## A. THE LAND AND THE PEOPLE

The West Bank and Gaza Strip are bordered by Israel, Jordan and Egypt as shown in Figure 1. The total land area of the Israeli-occupied West Bank and Gaza Strip (as defined by pre-1967 borders) is 5,939,000 million dunums (one dunum = .23 acres) of which 5,572,000 are in the West Bank and 367,000 are in the Gaza Strip.<sup>2</sup>



Source: M. Kunstel and J. Albright, *Their Promised Land*. Crown Publishers, Inc., New York; 1990.

According to the U.N., as of 1985, approximately 52% of this land was under Israeli control--that is, within the jurisdiction of the GOI or of Israeli citizens (settlers). Estimates of Israeli control of land as of early 1992 are shown below:<sup>3</sup>

Source of Estimate	West Bank	Gaza Strip
Al Haq	65%	50%
Land and Water	67%	50%
PHRIC	70%	52%

Because the most recent census was conducted twenty-five years ago (in 1967),<sup>4</sup> accurate demographic data for the Occupied Territories are virtually impossible to obtain. Thus, all population data have been estimated for the period after the 1967 census. The three primary sources of information regarding population are the Central Bureau of Statistics (CBS), the Ministry of the Interior (MOI) and estimates prepared by the Jordanian Medical Association in 1986. In the summary of demographic and other data published by Benvenisti and Khayat in 1988, it was noted that the Palestinian population data presented by the CBS and by the MOI for the Occupied Territories differ. For example, the data for 1987 showed CBS estimates of a total Palestinian population of 858,000 for the West Bank, while the MOI estimated the population to be 1,252,000.<sup>5</sup> The CBS estimates exclude East Jerusalem, which has a Palestinian population generally considered to be approximately 150,000.

Using the Statistical Abstract of Israel for 1990 as a basis, and assuming a 3.5% annual growth rate in the West Bank and a 4.5% annual growth rate in Gaza, the following estimates were calculated for 1991:<sup>6</sup>

West Bank (including East Jerusalem)	1,104,799
Gaza Strip	<u>1,010,640</u>
Total:	2,115,439

More than 35% of the Palestinian population is rural (see Figures 2-4), with 15% living in villages with populations of 2,500 or less. The Palestinian population is also a youthful one; nearly half (47.4%) of the Palestinian population in the West Bank is under the age of 15, as is 49.5% of the population of the Gaza Strip.<sup>7</sup> This age distribution and the high birth rates have important implications for social service needs as well as for labor force concerns.

Figure 2

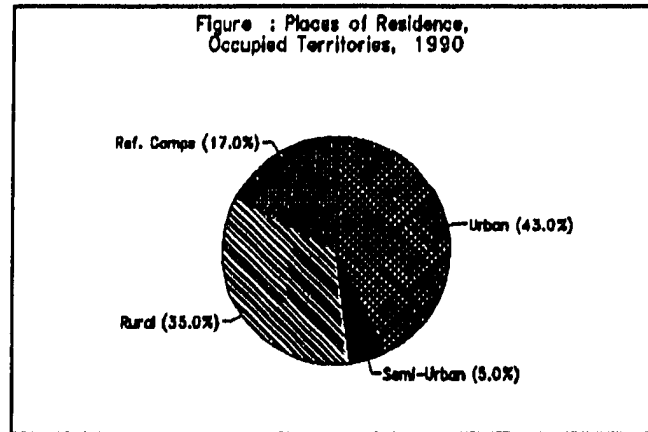


Figure 3

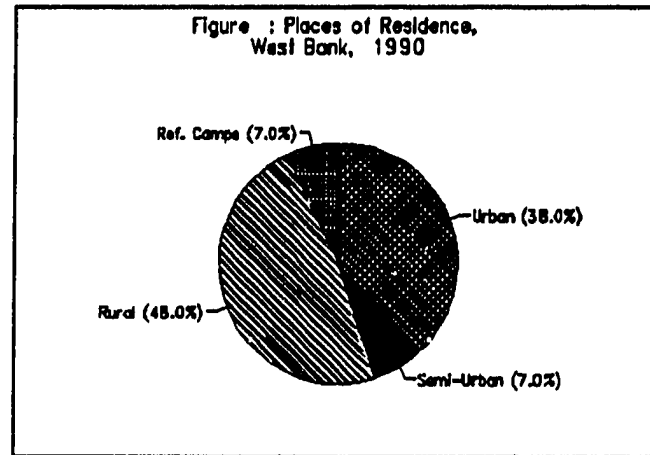
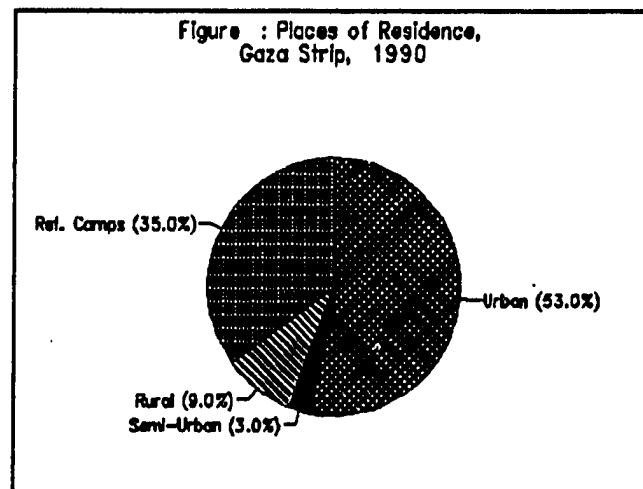


Figure 4



Source: Calculated from Statistical Abstract of Israel 1990, Central Bureau of Statistics: Jerusalem; 1990.

As of January, 1992, 451,695 individuals (or approximately 40% of the population) in the West Bank were registered as refugees. Of these, 119,172 (26%) lived in UNRWA camps. In the Gaza Strip, 549,675 Palestinians were registered refugees (approximately 80% of the population); of these, 302,977 (55%) lived in UNRWA camps.<sup>8</sup>

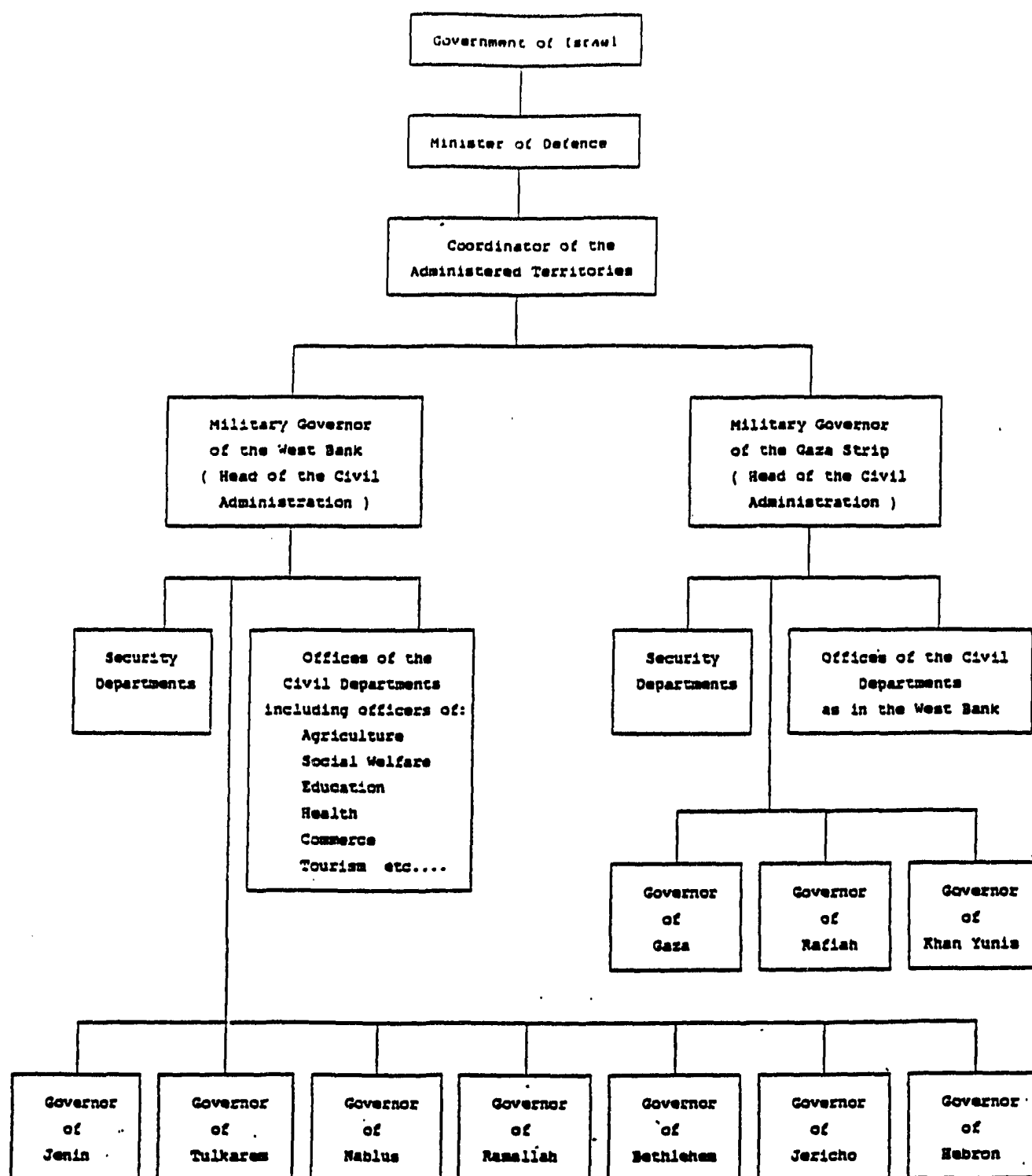
In spite of the high natural rate of increase, until 1991 the population had a relatively low rate of population growth. This resulted from emigration to Jordan, the Gulf States and outside the region, primarily for job opportunities. Even prior to the Gulf War and the influx of Palestinians from the Gulf States, an important population variable in the Occupied Territories, and particularly in Gaza, was the number of residents who returned from the Gulf States annually for summer vacation. It is reported that approximately 100,000 were doing so in the Gaza area for 2-3 months each year; no estimates of similar temporary residents were available for the West Bank. Since the Gulf War, an estimated 25,000 to 35,000 Palestinians have returned to the Occupied Territories from the Gulf States; an estimated 40% of them are currently residing in the Gaza Strip.<sup>9</sup> Most are university graduates but are unemployed or underemployed. However, those who are unemployed reportedly are not eligible for social benefits from the GOI. Some are eligible for services through UNRWA.

## **B. GOVERNANCE IN THE OCCUPIED TERRITORIES**

From 1950 to 1967, the West Bank was under the authority of the Jordanian government, which in 1955 devolved public administration authority to elected municipal governments. From 1948 to 1967, Gaza was under Egyptian control, with appointed municipal governments. Subsequent to the 1967 War, the Israeli military authorities assumed control of the Palestinian population in the occupied West Bank and Gaza Strip. Since 1967, no local elections have been held in Gaza; no municipal elections have been held in the West Bank since 1977.

In 1981, the Israeli government initiated a system of civil administration (CIVAD). Figure 5 on the following page shows the organizational structure of the CIVAD. The CIVAD's "jurisdiction includes all the civil powers of the military government but not the authority to enact primary legislation, which has remained in the hands of the Military Commander."<sup>10</sup> In virtually all CIVAD offices, a military officer directs the departments, but Palestinians comprise most of the technical and administrative staff. According to the Fourth Geneva Convention, the GOI is responsible for the provision of public services for the Occupied Territories, based on tax and other remittances from the Palestinians residing in the West Bank and Gaza Strip and from the GOI budget. These governmental functions are carried out by the CIVAD, with specific responsibility for sectoral programs being coordinated with the relevant Israeli ministry or regulatory body.

FIGURE 5: ORGANIZATIONAL STRUCTURE OF THE CIVIL ADMINISTRATION (CIVAD)



Source: "Food Security in the West Bank and Gaza Strip," Oct 1985, p.4.  
Arab Scientific Institute for Research and Transfer of Technology (ASIR);  
El-Bireh, West Bank.

The CIVAD currently serves as the "authority" in most municipalities in both the West Bank and Gaza Strip--no municipal elections have been held since a military order suspended elections in December, 1977.<sup>11</sup> Some municipalities have Palestinian officials appointed by the CIVAD, but their authority is limited. Local municipalities carry out activities which in other circumstances would be either public or private sector responsibilities. These range from wholesale produce markets to operating slaughterhouses. In doing so, they liaise with both the CIVAD and Palestinian private sector organizations as appropriate and necessary. For all intents and purposes, both CIVAD and the municipalities therefore constitute "public" agencies in the Occupied Territories. Village councils, of which there are approximately 75 in the West Bank and eight in the Gaza Strip, have even less authority than municipal councils. As with the municipalities, no elections have been held for village councils since December, 1977.<sup>12</sup>

Chambers of Commerce also perform services which in other contexts would be within the purview of governmental or quasi-governmental bodies. For example, they are involved in expediting approval of exports to Jordan (see the companion Trade report for further discussion of their role in export). Elections for Chambers of Commerce were not held from December, 1977 until early 1992, when the GOI allowed such elections in six areas in the Occupied Territories.<sup>13</sup>

### C. RECENT TRENDS IN THE ECONOMY OF THE OCCUPIED TERRITORIES

According to some reports, the economies of the Occupied Territories began to decline in the early 1980s. This decline resulted from stagnation in the Israeli and Jordanian economies.<sup>14</sup> The economy further declined in the late 1980s, even prior to the Gulf War. UNCTAD reported in 1991 that their review of Israeli and Palestinian data indicated "a rapid deterioration in the performance of the economy of the Occupied Territories during 1988-1990. According to that report, the gross domestic product (GDP) for the Occupied Territories decreased by 12%/annum during that period, to just over \$1.2 billion in 1990. Consistent with previous patterns, the decline in the Gaza Strip was more severe than in the West Bank: 17% versus 11%, respectively.<sup>16</sup> Gross national product (GNP) decreased by a comparable amount annually (11%), to approximately \$1.8 billion. Per capita GNP was estimated to be \$1,400 in the West Bank and \$780 in Gaza in 1990.<sup>17</sup> By comparison, the GNP in Jordan for 1989 was \$1,730.<sup>18</sup> In Israel it was \$10,920 in 1990.<sup>19</sup>

With the exception of agriculture, all sectors exhibited significant decline in the period 1988-1990; for example, according to the 1991 UNCTAD report, industrial output decreased by an annual average of 14%, and construction decreased by an annual average of 23%. Other sectors combined (public and personal services, trade, transport and communications) declined by 17%.<sup>20</sup> As a consequence, the contribution of the agricultural sector to the GDP increased from 25% to 31% from 1988-1990, while construction decreased from 17% to 14%; industry has remained at 9% of GDP (although output had decreased). The UNCTAD reports that the decline in the industrial sector "bodes ill for the future of the Palestinian economy."<sup>21</sup> It should be pointed out, however, that several researchers have suggested that traditional economic indicators (e.g., GNP, per capita GNP, GDP)



are not appropriate for the Occupied Territories as they have been devised to study productive economies. Given that the West Bank and Gaza Strip depend largely on transferred resources, the limitations of these indicators should be considered.<sup>22</sup>

The New Israeli Shekel (NIS) is the currency used predominantly in Occupied Territories, although the Jordanian dinar (JD) is still used by some in the West Bank. As of January, 1992, the rate of exchange was NIS 2.3/US \$1 for the Shekel and JD 1/US \$0.68 for the Jordanian dinar. Given the inextricable ties between the economies of the West Bank and Gaza and those of Israel and Jordan, pricing and inflation in these two countries have a significant and deleterious impact on the Occupied Territories. Several key examples of recent impacts are:

- \* increased prices for goods imported through Israel, which accounted for 91% of goods imported into the West Bank and 92% of goods imported into the Gaza Strip in 1986, the most recent year for which data are available;<sup>23</sup>
- \* decline in the wages of Palestinians working in Israel and a decline in real disposable income of most income groups in the Occupied Territories (an example of the deleterious impact of Palestinian wages' being tied to the Israeli economy); and
- \* the differential in the consumer price indices of the Occupied Territories and Israel, which has lead to both 1) a decrease in value of sales of Palestinian goods to Israeli buyers, and 2) an increase in purchase by Palestinians of consumer and durable goods from Israel (until the economic boycott of the Intifada, when this practice decreased considerably).

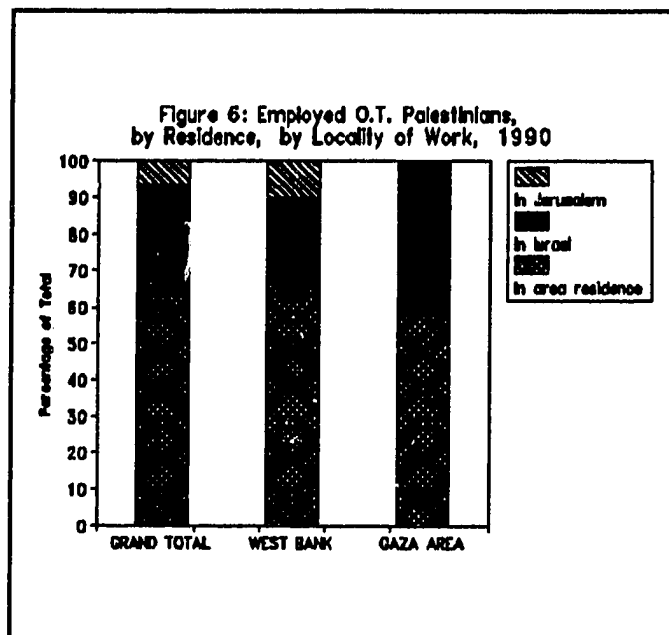
The economic impact of the Gulf Crisis on the Occupied Territories was--and continues to be--significant in all sectors. As the 1991 UNCTAD report noted, the economic impact resulted from both external and internal pressures; these are summarized below:<sup>24</sup>

- \* reduction in private remittances from Palestinians working in the Gulf states, estimated at \$120 million to \$340 million annually prior to the Gulf War;
- \* involuntary return of Palestinians working in the Gulf states to the Occupied Territories resulting in increased pressure on an already distressed job market;
- \* decreases in both public and private financial support from the region for Palestinian private sector development in both social services and productive enterprises (this support was estimated to be \$150 million in 1989); and
- \* disruptions in traditional export and import markets (note: the market share in Jordan had begun to decline prior to 1991<sup>25</sup>).

The total estimated economic impact of the Gulf War (based primarily on lost remittances, transfers and exports) was between \$250 and \$750 million in 1990 alone (55% to 80% of the total generated by these three sources in 1989), or approximately 10% of gross national disposal income.<sup>26</sup> Few knowledgeable individuals believe that there have been substantial moves toward an improvement in the economy of the Occupied Territories since the end of the Gulf War.

Estimates of current unemployment rates vary considerably. Israeli statistics for 1990 show a 13%-15% unemployment rate (including both those officially registered at the CIVAD labor exchanges and those defined by the Central Bureau of Statistics as "employed persons, temporarily absent from work"). Other estimates of unemployment in both the West Bank and Gaza Strip range between 30% and 40% of the work force.<sup>27</sup> While Palestinians now have regained minimal access to the Gulf States as a source of employment (and remittances), they are still dependent on employment in Israel (see Figure 6 below), although this alternative for export of labor capital is also highly volatile. As a result of reduced personal income, there has been a concomitant reduction in consumer demand (estimated 20-30% reduction)<sup>28</sup> and reduced funding available for investment.

Figure 6



Source: Israeli Statistical Abstract, 1991. Central Bureau of Statistics: Jerusalem; 1991.

51'

Reductions in local funding available for investment are particularly critical for economic development in the Occupied Territories because between 70% and 95% of capital investment in industry in the Occupied Territories is provided by the individual owners or their families. Importantly for economic development, the period 1988-1990 saw a 4% annual decrease in private investment.<sup>29</sup> Moreover, the external trade sector has not yet shown signs of improvement since the end of the Gulf War, in spite of efforts to re-establish economic relations with traditional trading partners in the region. Exports of both goods and services decreased an average of 30% per annum during 1988-1990, with the decrease far more dramatic in the Gaza Strip (50%) than in the West Bank (16%).<sup>30</sup> Imports of goods and services also declined during this period: 16% in the West Bank and 19% in the Gaza Strip.<sup>31</sup> As of the beginning of 1992, markets outside of Israel remained largely closed to Palestinian products, and the decreased purchasing power of Palestinian consumers continues to result in decreased imports available for Palestinians and decreased internal markets for Palestinian products as well.

#### D. DONOR ASSISTANCE

In addition to remittances from Palestinians working abroad, the economies of the West Bank and Gaza Strip depend to a large extent on donor countries and organizations, each of which has its own particular interest in the Occupied Territories and therefore directs the aid in a particular way. In 1991 alone, \$69 million in funding was allocated by donors for projects in the Occupied Territories.<sup>32</sup> This figure does not include funds provided by Arab states, as these data are difficult to obtain. A large proportion of donor funds are allocated through international private voluntary organizations (PVOs). Therefore, while the amount of donors funds allocated to the Occupied Territories appears large in proportion to the GNP (in 1991, the UNRWA budget alone accounted for 6% of GNP), a relatively large percentage of the funds do not directly enter the economy of the Occupied Territories. Much of the bilateral and multilateral funding remains in the country of origin to purchase goods and supplies which are donated to beneficiary groups in the Occupied Territories, or to pay for training and technical assistance. Similarly, while the "overhead" rate of the international agencies (e.g., UNRWA) and the international PVOs is relatively low (usually representing 20% - 45% of the total project budget), this does represent funds which are not part of the economy of the Occupied Territories. It should be emphasized that, in this respect, the West Bank and Gaza Strip do not differ from most other recipients of donor funds. However, in view of the fact that such funding is crucial for operation of basic human services and support of infrastructure in the Occupied Territories, it becomes a more critical issue. Moreover, there is little flexibility in the allocation of funds within the Occupied Territories: donor funding and other types of development assistance by international and bilateral agencies such as the World Health Organization (WHO), the UNDP and A.I.D., must be carried out by the donors and agencies with the approval of the GOI.

The importance of the economic role of UNRWA cannot be overlooked. In 1990, its annual budget for the West Bank and Gaza Strip was \$98.6 million. In 1991, the UNRWA budget was \$98.3 million; the approved 1992/1993 budget is \$217.8 million (roughly \$109 million per year).<sup>33</sup> In addition, from 1988 to 1991, approximately \$949.9 million has been contributed to UNRWA, primarily by the

U.S. and European governments, to operate refugee camps and to provide services to the refugees under its aegis. Approximately 40% of these funds are utilized for the West Bank and Gaza Strip.<sup>34</sup> Until recently, UNRWA has expended only minimal funds for economic development projects. However, the agency plans to raise \$20 million over the next five years for income-generating projects in the Near East.

It is important to distinguish between the ultimate source of external funds (e.g., governments and private donors to non-profit organizations) and the vehicles through which such funds are disbursed. The most important sources of external aid have been:

- \* individual Palestinians in the diaspora, who contribute to a variety of organizations and institutions (as distinct from the remittances sent by individuals to their families in the Occupied Territories);
- \* Arab governments and individual Arabs, contributing to:
  - individual Palestinian organizations and institutions, including municipalities;
  - the Joint Jordanian-Palestinian Committee for the Steadfastness of the Palestinian People in the Occupied Homeland;
  - the Palestinian Liberation Organization (PLO); and
  - various U.N. agencies operating in the Territories, including the UNRWA and UNDP.
- \* the U.S. Government, which disburses funds through:
  - various U.N. agencies operating in the Territories, including the UNRWA and UNDP;
  - the Agency for International Development (A.I.D.) Jordanian Development Program (until 1989); and
  - U.S. private voluntary organizations (PVOs) operating in the West Bank and Gaza Strip and one Palestinian PVO.
- \* private U.S. individual donors and foundations, providing funds to:
  - individual Palestinian organizations and institutions; and
  - U.S. private voluntary organizations operating in the West Bank and Gaza Strip.

- \* European, Canadian, Japanese and other governments, which provide contributions to:
  - individual Palestinian organizations and institutions;
  - the European Community (EC); and
  - various U.N. agencies operating in the Occupied Territories, including the UNRWA and UNDP.
- \* European individual donors and foundations, which provide contributions primarily to individual Palestinian organizations and institutions.

Understanding the nature of the sources of external funds is important to an understanding of the dependency of the Palestinian economy on the vagaries of external conditions. Ultimately, the U.S. and European governments and Arab states (and, increasingly Japan) are the major sources of funding. The major funding vehicles, including the several U.N. agencies and the U.S. PVOs, derive their funds from the same sources, governments and a few foundations and individuals.

For the most part, external funds have been provided for:

- \* construction of health and social service infrastructure projects and some housing,
- \* operating costs for health and social service programs (and lately for rehabilitation services, more popular during the height of the Intifada),
- \* agricultural cooperatives,
- \* municipalities (for construction and operating costs),
- \* human resources development and training, including local and overseas long-term and short-term education, and
- \* infrastructure and public works.

With the exception of agriculture, minimal donor funds have been provided for the productive private sector.

It is hoped that this sector analyses, and the others which comprise the cross-sectoral assessment of development opportunities in the Occupied Territories, will contribute to the efforts of Palestinians to be more proactively involved in planning for and implementing donor-funded projects. The reports may also contribute to donors' plans for more appropriate--as well as more effective and efficient--use of the resources they allocate for the Occupied Territories.

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# **APPENDIX II**

## **VISIONS OF A SUSTAINABLE FUTURE**

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## **APPENDIX II: VISIONS OF A SUSTAINABLE FUTURE**

This appendix to the sectoral analysis presents a summary assessment of the overall potential for development opportunities in the Occupied Territories. The analysis was conducted within sectors, and, insofar as possible, across sectors. This assessment is based on the analyses and conclusions presented in each of the individual sector reports prepared by Policy Research Incorporated (PRI). The eight individual sector reports include agriculture, education, finance and credit, health, industry and enterprise, infrastructure, trade, and water and sanitation.

Appendix II includes 1) a discussion of alternative assumptions under which economic and social planning will likely occur in the Occupied Territories; 2) a summary of the factors which constrain development across the sectors; 3) a summary of recommendations within and across the sectors; and 4) a list of issues that warrant discussion in the process of considering development alternatives for the Occupied Territories. Brief summaries of the findings of each of the sector reports are included as Executive Summaries with those reports.

### **A. DEVELOPMENT IN THE CONTEXT OF ALTERNATIVE SCENARIOS**

The move toward Palestinian economic self-reliance expanded considerably with the advent of the Intifada in 1987. Generally, the intent of this movement has been to promote a more productive allocation of investments, both internally (Palestinian) and externally (from donors). Specifically, Palestinians involved in development planning have sought to "enhance self-reliance in production, lessen dependence on external financial sources, diversify, rationalize and integrate domestic production branches, [and] reorient consumption patterns towards less conspicuous modes."<sup>1</sup> To this end, Palestinians have begun to 1) develop sectoral and regional plans; 2) design and implement experimental projects and new institutional forms and entrepreneurial initiatives; and 3) initiate a range of popular 'participatory development' efforts involving families, communities, regions, cooperatives, enterprises and professional associations.

In order to ensure that these sectoral analyses are as useful as possible for development planning, the recommendations summary recommendations presented in this appendix are listed assuming one of two alternative political scenarios:

- 1) no change in the current political status (with perhaps some relaxation of constraints), including programs and activities that could have short-, medium- and long-term impact without respect to a change in governance; and
- 2) a change in governance (e.g., interim self-government or autonomy).

There are, of course, many shades within this spectrum, but it is hoped that presenting the recommendations in this way will provide an option for discussion of development in the Occupied Territories. The development recommendations that assume the status quo are intended to meet immediate needs identified in the conclusions to which they are linked as well as to provide a foundation for

development under whatever political solutions are realized. They are thus building blocks toward a sustainable future under alternative political scenarios. It should be emphasized that the recommendations listed under "assuming political change" could also be carried out within a status quo scenario, but would likely necessitate elimination or significant amelioration of existing bureaucratic and other constraints.

Under the present circumstances, it is all too easy to assume that little can be accomplished other than minimal support for existing projects; this approach defeats the intention to promote sustainable development. On the other hand, to assume independence (statehood) as the only basis for planning economic and social development negates the reality of the present political situation (that is, of the Occupation) as well as the possibility of an interim self-government. It also does not take into account that, even in the event of autonomy, it will be necessary to design phased implementation of policies and programs. For example, it will be necessary to ensure that:

- \* a Palestinian tax system as well as an organized health system are in place before assumption of responsibility for financially burdensome public hospitals;
- \* economic support structures are in place prior to significant expansion of industrial capacity;
- \* cross-regional planning is in process, including the consideration of issues such as the trade-offs necessary between agricultural and industrial development in the water-poor Gaza Strip; and
- \* Palestinian planners and donors develop effective plans for physical infrastructure and other projects, ensuring that they will be used by their intended beneficiaries (i.e., Palestinians) given the possibility that such projects could be established within settlement areas in the future.

In any case, donors should accept the possibility that their medium-term and long-term (and even many short-term) development expectations could be considerably diminished under the present circumstances, even in the event of autonomy. In this most abnormal political situation, the traditional indicators of change--difficult to obtain, verify and attribute to donor programs under any circumstances--are of questionable validity and utility.

## **B. CONSTRAINTS TO DEVELOPMENT IN THE OCCUPIED TERRITORIES**

Sustainable economic development is proving to be an elusive goal even under "normal" circumstances in developing countries, and increasingly so for countries of all income levels. As this and the companion sectoral analysis reports demonstrate, the socioeconomic situation in the Occupied Territories do not approximate normal circumstances. Given the status of the various sectors of Palestinian economy and society, and in particular given bureaucratic and other impediments, what are the opportunities for economic and social growth and

development in the West Bank and Gaza Strip? The technical and managerial issues are myriad and complex, both within and across sectors.

While this is true in any country or jurisdiction; however in the Occupied Territories these issues are complicated by the volatile and fluid political realities and by the significant dependence on external donors for support for any type of development. Donor investment and support are, in turn, complicated by the fact that the traditional role and involvement of donors in developing countries has been severely limited in the Occupied Territories. The normal mechanisms for rational allocation of donor assistance (e.g., donor negotiations with a ministerial level planning agency or external donors' department within a Ministry of Finance) do not exist, while constraints to planning effective use of donor funds are apparent.

It is important that those involved in planning for development in the Occupied Territories be aware of the constraints under which the various sectors operate and within which development occurs. The constraints which pertain to each of the sectors are described in the corresponding section of each sectoral analysis, with a discussion of the manner in which the constraints impact on development in that specific sector. However, several types of constraints have especially broad impacts on development; these are summarized below.

#### **B.1 Bureaucratic constraints**

*Bureaucratic constraints* include GOI regulations which discriminate against Palestinians and their public (municipal) and private sector institutions and organizations. These regulations are subject to change (sometimes without notice) and to enforcement by individual members of CIVAD without approval (or knowledge) of their superiors. Examples include:

- curfews (sometimes imposed for extended periods of time),
- barriers to physical mobility constituted by pass requirements and other factors,
- onerous procedures for obtaining building and other permits and arbitrary application of such procedures,
- taxation policies and enforcement which have been perceived by the International Jurists Commission and others as inappropriate and a violation of Geneva Conventions,
- restrictive labelling and export requirements on Palestinian products, and
- control of and restrictive policies with respect to basic physical infrastructure including electrification, communications and transportation, water use, and land use.

An important impediment to effective planning and implementation of development programs and projects is the fact that all those involved in development planning, including Palestinians and donors, lack access to critical fiscal, economic and technical information which is collected, processed and maintained by the CIVAD (or the GOI). While some information is available to Palestinians and others through the Central Bureau of Statistics (and other sources), other critical information is not. This includes, for example, revenue and expenditure information which is critical for an understanding of operating costs and cost recovery possibilities within the health and education sectors. Palestinians (and donors supporting projects in the Occupied Territories) also have no information with respect to plans for settlement areas, including plans for physical infrastructures to support the settlements.

The complex mixture of residual laws (in force at the time of the Occupation), Israeli civil laws and regulations and military regulations vastly complicate development planning and implementation of specific projects and general sectoral programs. Virtually all court cases involving Palestinians are adjudicated in the military courts, including all civil cases (e.g., with respect to contracts and taxes). The effective absence of a civil court system makes it all but impossible to formulate and enforce contractual arrangements.

Palestinians have no adequate mechanism to generate revenues and provide public services. As a result, Palestinian NGOs and municipalities operating health and social programs or public infrastructure systems (e.g., water and sanitation, road networks, electrification) face unusual obstacles in attempting to cover their operating costs and adequately maintain physical plants and equipment.

There have been some positive indicators that GOI constraints have relaxed since 1991. In late 1991 the GOI initiated relaxation of restrictive policies which impede economic development, including: approval of licenses for a number of new small- and medium- scale manufacturing, agricultural and commercial projects and relaxation of restrictions on the inflow of external financial resources by raising the limits on such inflow per person entering the Occupied Territories--from \$400 to \$3,000.<sup>2</sup>

It may well be that international organizations (e.g., the U.N.) and bilateral and other donors can convince the GOI that relaxation of other bureaucratic constraints is beneficial to the economies and social structures of both Israel and the Occupied Territories. Simultaneously and independently, the international organizations and donors should work with the Palestinians (and Arab states) to ensure that, insofar as possible, constraints that result from Palestinian practices and the policies of Arab states are ameliorated or eliminated. Finally, the U.S., and other countries should remove constraints imposed by their governments or apply policies which would encourage development (e.g., labelling and most favored nation status). These governments should also ensure that their investment policies and programs are consistent both internally--that is, within the bilateral program--and externally--that is, between and among the various donor agencies and organizations. Donor investment policies should also be consistent, insofar as possible, with available development plans generated within the Occupied Territories.

## **B.2 Economic and other constraints**

Given the inextricable linkage with the Israeli economy, from which the Occupied Territories derive questionable benefit, there is, effectively, no free external market, and a severely limited free internal market. Moreover, the public (GOI) and private (Israeli and Palestinian) environment is not, to say the least, conducive to sustained economic development. The economic and physical infrastructures and systems on which development normally depends range from grossly inadequate to nonexistent. In addition, the Occupied Territories have few natural resources, a shortage of water and an increasingly diminishing land area.

The local work force, which in the past served as an important source of income (through export of labor to the Gulf States and other countries) is unbalanced with respect to education and training. That is, a large (though not specifically defined) proportion of Palestinians are highly educated but underemployed professionals or skilled and semi-skilled workers who have only minimal access to training that would enable them to become updated on technological advances.

Since the onset of the Gulf crisis, the "safety-valve" of Palestinian emigration to the Arab Gulf has been closed, and Palestinians have returned to the Occupied Territories or to Jordan. As a consequence, remittances from the Arab Gulf, on which the Palestinian economy was heavily dependent, have been significantly reduced. As a result of the extremely limited opportunity to engage in external trade and the virtual absence of support structures for economic and social development (e.g., marketing systems for agricultural and industrial trade), Palestinians have little competitive advantage, with the exception of their low-scale wages, which have some negative socioeconomic consequences as well.

Development and implementation of potentially effective national and regional level plans require a governmental base through which to link sectors and public/private sector initiatives and programs. It also requires data and information as well as experience in the selection and application of planning techniques. However, neither the CIVAD nor the municipalities (which together constitute the de facto public systems in the Occupied Territories) plan and implement programs and projects across sectors. Nor do most Palestinians working in these entities have substantial experience in such cross-sectoral planning and program and project management. Not only have they been minimally involved in the design, use and application of data and information systems, they have also had little access to data and information required for planning and managing public and private sector organizational structures and functions.

*Physical infrastructure* (communications, electrification, and transportation networks) and water and sanitation systems are in poor repair and wholly inadequate. This severely impedes operation and expansion of the public and social service sectors and the productive private sector. Moreover, political and economic factors impede the efficient linkage of critical physical infrastructure such as electrical, communications, and road networks.

Unfortunately, as discussed in the individual sector reports, the political situation in the Occupied Territories militates against investment in private sector economic activities which may have the greatest potential for economic impact, as well as in social or physical infrastructure projects which take into consideration economies of scale. With respect to the latter (which include, for example, telecommunications, electrification and health services), this limitation has fostered wasteful and costly duplication. It has also hindered the ability of Palestinian institutions and donors to provide adequate basic services for the population as a whole and for the industrial sector in particular. For example, Palestinians are prohibited (for security reasons) from using much of the extensive road network which serves settlers, although access to these roads would facilitate access to markets. Similarly, electrification projects (largely funded by donors) have focused on electrification of the smaller villages, rather than on ensuring that industries have access to services adequate to meet their production needs.

*The present economic outlook.* The worsening economic situation in the Occupied Territories bodes ill for development opportunities. Extensive development is difficult for projects that rely on private sector initiative, as well as those that rely on public (municipal) initiative. At the same time, the relatively young, disaffected (and unemployed) youth can potentially both participate in social unrest and contribute to social and economic change.

### C. DEVELOPMENT OPPORTUNITIES

Even given these constraints, however, substantial improvement can and should be made in economic and social development in the Occupied Territories. It is critical that Palestinians and donor agencies rationalize the existing scattered projects within and across sectors. This rationalization must include identifying linkages across sectors that can improve the likelihood of development under both the status quo and potentially changed political and administrative circumstances.

Table 1 presents a summary of recommended programs by sector for both the status quo and political change scenarios. The recommendations for the political change option are in addition to those for the status quo, which are intended as building blocks for development, whether or not positive political change is achieved. The recommendations were devised based on the needs identified in each of the sectors independently. It should be noted that because detailed recommendations are included in each sector analysis report (e.g., education, health, industry), the recommendations in Table 1 are abbreviated in order to present them in a tabular format. Also, the term "public" or "quasi-public", as used in Tables 1 and 2 and in the following discussion, refers to municipalities and to other entities that undertake activities that under normal circumstances would fall within the purview of public (or quasi-public) entities (e.g., local water authorities). The recommendations are not presented in priority order.

An assumption supporting all recommendations is that donors would utilize local (Palestinian) resources wherever possible, as well as appropriate and cost-effective resources from the region (including Israel and Jordan, for example) and from donor countries (e.g., the U.S., Japan and Europe). Donors are encouraged to include a wide range of community-based and other organizations in order to

provide them with the opportunity to participate in comprehensive development across sectors and to promote broad-based support for such development among these groups.

To prepare for specific plans within and across sectors, to derive maximum benefits from available resources, in the Occupied Territories, and to promote sustainable development, Palestinians and donors involved in supporting development in the Occupied Territories should: 1) identify overall development goals and specific objectives, 2) assess the relative utility of alternative development approaches, 3) consider the cross-impacts of the development goals and specific programmatic foci and projects within and across sectors, and 4) set priorities for projects within and across sectors. Whenever possible and appropriate, donors should assist Palestinian organizations in this planning process.

To provide an example of how the interrelationships among project proposals and objectives can be considered, Table 2 presents each specific sector recommendation identified in Table 1 and indicates the specific objectives for development to which the project or activity would contribute. These general and generic development objectives were identified from two sources: the most recent World Bank reports.<sup>3</sup>

A review of the recommendations presented in Table 2 makes it clear that there is a consistent pattern across the sectors and across the objectives. Review of this pattern might be useful for those involved in considering a rationalized development approach for the Occupied Territories. The principal foci of recommendations across sectors are:

- \* strengthen the capacity of Palestinian quasi-public and private sector institutions and organizations to plan, manage and evaluate policies, programs and projects at the national, regional and local level through:
  - selecting and improving access to and use of information resources both internally (within the Occupied Territories) and externally;
  - providing technical assistance, training (for managerial and technical staff) and other support for the enhancement or development of quasi-public and private sector institutions and organizations that are responsible for or are involved in economic and social infrastructure support systems (e.g., water and sanitation, quality control, marketing systems, civil courts, tax collection and social welfare. This would include, for example, assisting in the definition and adaptation of standardized procedures; and
  - improving education and training at the primary through university levels, including vocational/technical training, and literacy, self-instruction and distance (remote) learning programs.

\* improve the development, diffusion, use and assessment of technology in the quasi-public and private service and productive sectors through:

- providing technical assistance and training to enhance the selection and use of equipment and of new procedures (technologies) in agriculture, industry, health and education and physical infrastructure, including assessment of the economic, social and environmental impacts of new technologies and procedures;
- providing grants and loans (as appropriate) for the purchase of equipment which has been demonstrated to be useful and appropriate for enhancing productivity or effectiveness in the sector to which it applies (e.g., new technologies in crop production, cardiovascular disease prevention and treatment or alternative energy sources); and
- providing grants and loans (as appropriate) to enhance the capacity of Palestinian universities and research institutions to develop and/or adapt appropriate technologies for use in the West Bank and Gaza Strip and for export (including, for example, computer software).

\* improve management of, access to and use of credit and financial resources, through:

- training of existing personnel in banks and credit institutions;
- technical assistance and other support to improve management of bank and credit institutions;
- facilitating loans through international and regional development banks and private sector financial institutions; and
- supporting the development of credit circles and other locally based organizations which foster savings and loan arrangements for local development.

\* improve the collection, analysis and distribution of data and information for use in quasi-public and private sector programs and projects, through:

- training in data and information management;
- technical assistance and other support for the development of clearinghouses and information systems in each primary economic and social sector (e.g., agriculture, industry, water and sanitation); and



- encouraging the provision of relevant data sets from the GOI to Palestinian public and private institutions.
- \* improving the physical infrastructure which supports both quasi-public and private sector services and productive enterprises, including, for example, communications, electrification and transportation networks;
- \* strengthen health and social welfare services which are critical for human growth, development, welfare and performance and are linked to a society's economic development; and
- \* encourage effective and efficient use of energy resources and prospective protection of the environment in the process of economic, and particularly industrial expansion.

#### **D. DEVELOPMENT ISSUES IN THE OCCUPIED TERRITORIES**

A number of complex issues must be faced by those involved in development planning for the Occupied Territories. This section of the appendix briefly summarizes several of those issues.

*Linkages Across Sectors.* While it is true that devising plans for economic and social development in the Occupied Territories is difficult under the present circumstances, the opportunity nonetheless exists for the design and enhancement of public and private sector systems which avoid the problems of entrenched bureaucracies and make the most effective use of Palestinian entrepreneurship and community and support networks. All too often it is necessary to prepare development plans in the context of bureaucratic structures which are not disposed to interact with one another (e.g., the Ministry of Health with the Ministry of Agriculture) or with the private sector (e.g., industry with public environmental agencies). In the virtual absence of such bureaucratic structures at the regional (i.e., West Bank or Gaza Strip) level, the potential exists to plan for the most effective and appropriate use of limited resources for Palestinian development. Moreover, donors and Palestinians have a unique opportunity to establish incremental programs and projects on which broader or more extensive development can be based both within and across sectors. For example:

- educational and training programs can be devised in light of short-, medium-, and long-term economic development plans in general and industrial expansion and agricultural trade specifically;
- innovative approaches to expansion of health services and to health promotion and disease prevention can be devised in recognition of and in cooperation with the productive private sector (e.g., workplace-based PHC and prevention activities); and
- support for industrial expansion and infrastructure development can be linked to appropriate and efficient use of natural resources and designed to promote protection of the environment.

***Benefitting from Israeli Experience.*** The factors of development in the Occupied Territories place them at a significant disadvantage with their primary trading partners--Israel and Jordan--and this has been seen primarily as negative with regard to development. However, opportunities exist for the Occupied Territories to learn from the experience of their most successful trading partner, Israel, as well as to learn from their specific economic interaction with that country. For example, educational and training opportunities in the Occupied Territories stand in stark contrast to those available in Israel. As the Israeli economist Aharoni has noted, human resource development in Israel has been a foundation of economic development. He states that "The long-term competitive advantage of Israeli firms is largely a function of their ability to exploit unique human capital capabilities."<sup>4</sup> Israeli investment in the educating and training its population is exemplary. Palestinians and donor organizations which support development in the Occupied Territories should consider adaptation of applicable Israeli educational and training policies and programs to their development plans.

***Addressing development policy questions.*** The current situation in the Occupied Territories also provides the opportunity for consideration of broad-based policy issues which entrenched bureaucracies often avoid facing. The policy questions that should be considered by Palestinians, donors and other involved in planning for development in the Occupied Territories include, for example:

1. Given that there no mechanism exists to ensure coordinated planning across sectors, what are the opportunities to ensure (insofar as possible) intra- and inter-sectoral linkages and decision-making for sustainable development? Such linkages include, for example, investment in productive industries which are not environmentally hazardous and in crop and livestock production which places minimum burden on land and water resources. A related consideration is that given the importance of integrated planning and the inherent difficulties in achieving it under the current circumstances, what should be the priority projects for the immediate (1-3 years), medium (3-5 years) and long-term (5-8 years)?
2. What will/should be the relative priority of public social and economic infrastructure systems (e.g., unemployment insurance, welfare, public health, social security/pensions as well as quality control and testing of medicines, protection of the environment, etc.) vis-a-vis investments in the productive private sector (e.g., tax benefits for private investment, public support for physical infrastructure for industrial zones)?
3. What contributions should donor agencies (bilateral, multilateral and private) make to improve the capacity of public services (e.g., health, education, physical infrastructure), pending a political resolution? Should such contribution include, for example, training the existing or an emerging cadre of municipally-based physical infrastructure employees (communications, electrification, transportation and water and sanitation) and/or investment in physical infrastructure projects themselves? What should be the relative priorities of investment in education and investment in improvements in technologies in the public and private sectors? While human resources development (education and training) is necessary (and a traditional investment role by itself), it is simply insufficient and could

lead to problems of social and/or economic instability if the economy does not soon rebound. Moreover, focusing exclusively on human resource development (in particular on degree training) has the disadvantage of requiring a long lead time before impact on economic development is realized.

4. What is the most appropriate and feasible degree of centralization/decentralization of public and quasi-public services, given cultural/geographical realities and practical economic and administrative considerations? What role could/should donors play in planning and preparing for centralization or decentralization of such services?
5. What is the most appropriate role for donors with respect to investment in the productive private sector? Given that the mechanisms used in both market and mixed economies to encourage investment and jobs creation are minimal (at best) in the Occupied Territories, what should donors do to assist in "jump starting" the economy in the Occupied Territories? What investments should be made in the cooperatives, which have (for all intents and purposes) assumed the role of quasi-shareholding for-profit companies, competing with privately held companies? Donors have supported the cooperatives extensively but have provided little support to the private sector. Should donors now provide financial support to privately-held, productive private sector companies comparable to such support provided to private companies in the U.S., Europe and the Pacific Rim (e.g., the U.S. government's Small Business Innovation Program)? Should donors work with the international banking community to facilitate loan guarantees to the private sector in the Occupied Territories for industrial development? To what degree should donors encourage or discourage small-scale enterprise in lieu of investments in medium- and large-scale industrial enterprises?
6. What should be the role of donors in preparing for assumption of certain public services (e.g., health, education, tax, regulatory and court systems)? On the one hand, there is considerable pressure for the Palestinians to assume responsibility for the social systems (e.g., health and education) in spite of the fact that they are not now responsible for the governmental systems with which those social service systems are inextricably linked (e.g., tax and regulatory systems). On the other hand, creating the basic (non-physical) infrastructure required for assumption of these responsibilities could consume a large proportion of the current donor allocation for the Occupied Territories.
7. Given that current policies of many donors, including the European Community and A.I.D. (as well as the World Bank, which has had representatives at the multilateral economic discussions), encourage privatization of services which are currently owned or managed by the public sector in some countries (e.g., electrification, transportation, communications, health), what investment should be made in municipal control of such services in the Occupied Territories? What rationale is there for such investment versus investment in encouraging private sector ownership/management of such services? Donors should be consistent in

their policies--if they support private sector development in the Occupied Territories, they should be prepared to invest in, or facilitate such development.

8. Given the current deteriorating economic situation what is the realistic potential for donors to consider immediate support for a large-scale public works program? Such a program--which could be comparable to that of the Civilian Conservation Corps (CCC) in the U.S. in the 1930s (and presently under consideration for adaptation by the incoming U.S. administration) focus on small- and medium-scale physical infrastructure projects (e.g., farm to market roads and environmental clean-up or protection). Moreover, the economic crisis would seem to call to developing a formalized social safety net--the absence of which helps to foster social disequilibrium in the Occupied Territories. Such a safety net could be comparable to those being designed by the World Bank for several developing countries; however, such programs require large infusions of financing--are donors prepared to provide such financing?

#### **E. TOWARD SUSTAINABLE DEVELOPMENT**

The small population base of the Occupied Territories and other factors suggest that economic growth depends on export-oriented industry and domestic service enterprises (e.g., tourism); this builds on the historical mercantile tradition of Palestinians. In any case, such development must be as diversified as possible (and as practical), in order to lessen the dependence on one or another source of financing for economic development. It must also be based on improvements in the capacity of Palestinians to compete in the increasingly competitive and dramatically changing global economy and to manage their domestic quasi-public and private institutions.

Development planning in the Occupied Territories is taking place in the context of a dynamic and shifting political environment. When the preparation of these sectoral analyses was initiated in December, 1991, the Peace Talks had only just begun, and a different political party was in office in Israel. Since then, several sessions of the Peace Talks have taken place (with some progress, at least at the technical level), and elections in Israel and the United States (a co-sponsor of the Peace Talks) have resulted in changes in government in both countries.

In order to ensure that they are contributing most positively to the process of economic and social development in the Occupied Territories, donors should increasingly turn their attention to support of policies, programs and projects which are linked across sectors in ways which most effectively make use of the resources available. Moreover, in the event of political change, it will be necessary for donors and international private voluntary organizations (PVOs) currently operating projects in the West Bank and Gaza Strip (and most importantly for UNRWA) to recognize that they most likely will have different roles in the process of planning and implementing economic development and social programs in the area.

**In the long run donors will need to recognize that the eventual fulfillment of great expectations of economic growth in the Occupied Territories will require infusion of sufficient funds for operating costs and capital investment, as well as technical assistance and training help create jobs and develop a healthy, competitive economy. If donors cannot provide a sufficient quantity of such funds directly, then facilitating access to funds from other appropriate sources should become a priority. Donors should also encourage cooperation--economic and otherwise--within the Middle East region, and in particular between Israel and the Occupied Territories. Such cooperation would strengthen the capacity of the countries in the region (and of the Occupied Territories) to compete in the changing global marketplace. It may also contribute to political and social stability in the area and in the Occupied Territories specifically.**

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Table 1

## Summary of Recommendations by Sector

Agriculture	Education & Training	Finance & Credit	Health	Industry & Enterprise	Infrastructure (Communications, Electrification, Transportation)	Trade	Water & Sanitation
<b>ASSUMES STATUS QUO</b>							
Short-term relief program including agricultural feeder roads, land reclamation	Improve computer, laboratory & library facilities at public & private K-12 level & post-secondary educational & training institutions	Expend community-based savings & credit institutions (e.g., credit circles)	Strengthen health systems' planning & management at all levels of the health care system	(See finance & credit for related recommendations)	(See education for related recommendations.)	(See agriculture & industry for related recommendations.)	Design & implement small-scale water & sanitation projects, in the West Bank & Gaza Strip, using the most appropriate technologies
Improve capacity of Palestinian institutions to plan, manage & evaluate programs & projects	Expand & improve private sector initiatives in literacy & distance learning	Improve capacity of banks, credit institutions & insurance companies to plan, manage & evaluate their activities	Improve financial management capacity & potential for cost recovery at all levels & types of facilities	Enhance capacity of industry & enterprise in terms of productivity, quality control, management (financial, personnel, etc.)	Improve managerial & planning of Palestinians currently or potentially responsible for infrastructure projects	Conduct marketing studies & surveys to generate require trade-related data	Immediate design & implementation of wastewater recycling, large-scale water-catchment & other related projects in the Gaza Strip
Improve & expand marketing information & support systems; coordinate with other sectors, (e.g., industry for food processing)	Physically rehabilitate existing K-12 schools & construct new schools as necessary; include facilities for recreation & community-based education in rehabilitated & new schools	Develop finance & credit data and information clearinghouse	Expand facility, regional and inter-regional health planning & needs assessment activities	Develop & expand linkages between Palestinian industry & enterprise foreign universities & research institutions	Upgrade capacity of skilled and semi-skilled workers in infrastructure (focusing on skills in new technologies)	Expand & improve linkages between Palestinian firms and trade inst. & foreign business & trade and related institutions	Design & implement small- and medium-scale sanitation projects
Expand use of improved irrigation systems making better use of scarce water resources	Revise K-12 and post-secondary curriculum, including ensuring linkage of curriculum to development needs and employment opportunities	Expand credit for the productive private sector (e.g., loan guarantees)	Expand & improve capacity of institutions to collect, analyze & disseminate data & information for expanded health educational programs	Conduct comprehensive industry/enterprise inter- and intra-regional planning (including for feasibility/appropriateness of industrial zones)	Develop computer-based information systems for planning & management of infrastructure projects	Expand & improve economic infrastructures which improve domestic & import markets (e.g., capital projects & systems for monitoring quality control of products)	Upgrade capacity of Palestinian institutions to conduct water quality & other environmental studies
Expand and improve crop varieties & livestock production (to enhance marketing potential, improv. land & water use)	Expand & improve teacher training in educational theory & practice & in grade levels & subject areas for which they are responsible	Conduct study of capacity of existing inst. to manage larger loans to the productive sector	Conduct an assessment of existing health research studies & data bases; disseminate results	Strengthen institutions which support industry & enterprise (e.g., Industrial Union(s), Chambers of Commerce, economic development institutions)	Upgrade & expand road networks, particularly key market access roads & roads in villages with little or no access to areas having basic services	Expand Palestinian trade relations & related short-term visits to foreign countries	Conduct water, air and other environmental studies, focusing initially on high risk areas
Develop industrial sector in Gaza, in lieu of expansion of agricultural sector, in view of water shortage	Expand availability of new educational technologies at K-12 & post-secondary levels & train teachers in use of same	Conduct study of & plan for broad-based insurance needs	Develop & implement facility and cross-facility health management & information systems	Develop/expand industry/enterprise data & information systems (e.g., marketing information systems)	Develop regional infrastructure plans, by subsector (e.g., electrification), focusing on most cost-effective systems, & expand community involvement in infrastructure planning	Develop trade-related data & information systems & clearinghouses (linked to regional & international information systems)	Improve capacity of municipal & private companies to plan, manage & evaluate water & sanitation services & systems, including improving their capacity to recover costs of services
Expand capacity of Palestinian research & extension services	Improve management of educational & training institutions at all levels	Improve capacity of Palestinian institutions to carry out planning & devise policies & programs at the macroeconomic and microeconomic levels	Expand continuing education for health care providers to help ensure quality of care	Expand capacity for and conduct applied research studies of productivity & quality control, including directly & indirectly related factors (e.g., labor/management relations, occupational & environmental health practices, quality control mechanisms)	Conduct demonstration projects on alternative energy sources	Upgrade capacity of Palestinian firms to have competitive advantage (e.g., in new product development, quality control requirements of trading partners, marketing techniques)	Improve capacity of skilled & semi-skilled employees, focusing on new technologies & processes
Expand & improve linkages between Palestinian institutions and foreign public & private sector agricultural research & development institutions	Expand capacity of post-secondary institutions to provide short-term training in marketable skill areas		Develop/adapt practice guidelines for all provider categories & levels of care		Improve capacity of public, quasi-public & private organizations to design/develop & manage infrastructure financial systems & to recover costs of related services	The U.S. should explore relaxation of any trade barriers on Palestinian products & implementation of favorable trade regulations	Conduct study of water pricing & utilization
Develop/expand an agricultural data & information clearinghouse	Expand capacity of post-secondary institutions to conduct applied research & development projects for the private sector (including expanding facilities & training of faculty)		Expand primary & secondary level care, community-based rehabilitation services, & mental health services to underserved areas		Expand electrification to villages without services & upgrade existing equipment		Develop/improve water & sanitation information systems
	Develop/expand an education & training data and information clearinghouse		Plan and implement regional systems care, to make the most effective and efficient use of scarce resources & improve care delivery	Design & expand support systems for industry/enterprise (e.g., quality control, product testing, consultation for environmental & occupational health & safety, trade)	Develop/adapt certification & standards for physical infrastructure personnel (e.g., electrification), for use in initial and on-going assessment of skills among municipal & quasi-public employees		Develop a water and sanitation data & information clearinghouse
	Develop & improve the design & use of educational assessment materials for use with teachers and students		Improve existing health data & clearinghouses	Improve ergonomics and productive capacity of existing and selected new industries/enterprise			
	Conduct an assessment of university programs to identify potential areas for regional coordination and resource sharing		Develop capacity of Palestinian facilities & health care providers to provide services which are not available in the O.T., if doing so would improve effectiveness & efficiency				
<b>ASSUMES POLITICAL CHANGE</b>							
Expand support for graduate training	Expand construction of new public schools, as necessary	Expand credit for productive private sector through loan guarantees, etc. through donor agencies, international, regional and national banking institutions	Support integrated health systems	Design & develop industrial zones, determined to be appropriate (see above)	Expand communications systems, using appropriate, low-cost technologies	Develop multi-national trade data & information systems	Plan & implement large-scale water & sanitation projects, as necessary
Expand support for improved buildings & laboratories for educational institutions	Expand research & development related to the productive private sector	Expand banking & credit services (branches of existing banks or institutions or new banks or institutions) to geographic areas in which no such services exist	Support public & private health financing mechanisms	Adapt/develop new products through loans or small grants	Expand integrated electrification system, using low-cost appropriate technologies	Develop/expand free trade zones	Expand support for multi-national water & sanitation projects in Middle East
					Expand road network & link with Israeli & Jordanian road networks		

NOTE: This table does not include recommendations concerning donor coordination, nor those related to removal of bureaucratic or other constraints to development.

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Table 2.  
Linkage Between Sectoral Recommendations & Development Goals & Objectives

Recommended Sectoral Activities	GOAL	Objectives			
	Improved economic & social well-being of the population	Increased productivity & marketing of agricultural & manufactured goods	Strengthened capacity of both public & private sector institutions to plan & manage on-going & development policies, programs & projects	Improved educational attainment, health, and participation in the workforce on the part of the population	Improved use of renewable resources
<b>Across Sectors</b>					
Elimination or alleviation of bureaucratic and other constraints	x	x	x	x	x
Strengthening the capacity of Palestinian public and private sector institutions to plan, manage & evaluate policies, programs & projects at the national, regional and local level	x	x	x	x	x
Improving the development, diffusion, use access to, evaluation & acquisition of technology in the public and private sectors	x	x	x	x	x
Improving management of and access to use of credit and financial services.	x	x	x		x
Improving the collection, analysis & distribution of data & information for use in public and private sector programs & projects, as well as access to relevant GOI and other data and information	x	x	x	x	x
Improving physical infrastructure & water & sanitation systems which support the public & private sectors & meet basic human needs	x	x	x		x
<b>Agriculture</b>					
Short-term relief program, including agricultural feeder roads and land reclamation	x	x		x	x
Improve capacity of Palestinian institutions to plan, manage & evaluate programs & projects	x	x	x	x	
Improve & expand marketing information & support systems	x	x	x	x	x
Expand use of improved irrigation systems, better use of scarce water resources	x	x	x	x	x
Expand and improve crop varieties & livestock production (to enhance marketing potential, improve land and water use)	x	x		x	x
Develop industrial sector in Gaza, in lieu of expansion of agricultural sector, in view of water shortage	x	x		x	x
Expand capacity of Palestinian research & extension services	x	x	x	x	
Expand & improve linkages between Palestinian institutions and foreign public & private sector agricultural research & development institutions	x	x	x	x	x
Develop/expand an agricultural data & information clearinghouse	x	x	x	x	x
Expand support for improved buildings & laboratories for agricultural training	x	x		x	
Expand support for graduate training	x	x	x	x	x

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Table 2, continued  
Linkage Between Sectoral Recommendations & Development Goals & Objectives

Recommended Sectoral Activities	GOAL		Objectives			
	Improved economic & social well-being of the population	Increased productivity & marketing of agricultural & manufactured goods	Strengthen the capacity of public & private sector institutions to plan & manage on-going & development policies, programs & projects	Improved educational attainment, health, and participation in the workforce on the part of the population	Improved use of renewable resources	
<b>Education</b>						
Improve computer, laboratory & library facilities facilities at public & private K-12 level & post-secondary education & training institutions	x	x	x	x		
Expand & improve private sector initiatives in literacy & distance learning	x	x	x	x		
Physically rehabilitate existing K-12 schools & construct new schools as necessary; include facilities for recreation & community-based education in rehabilitated & new schools	x	x	x	x		
Revise K-12 and post-secondary curriculum, including ensuring linkage of curriculum to development needs & employment opportunities	x	x	x	x		
Expand & improve teacher training in educational theory & practice & in grade levels & subject areas for which they are responsible	x	x	x	x		
Expand availability of new educational technologies at K-12 & post-secondary levels & train teachers in use of same	x	x	x	x		
Improve management of educational & training institutions at all levels	x	x	x	x		
Expand capacity of post-secondary institutions to provide short-term training in marketable skill areas	x	x	x	x		
Expand capacity of post-secondary institutions to conduct applied research & development projects for the private sector (including expanding facilities & training of faculty)	x	x	x	x		
Develop/expand an education & training data and information clearinghouse	x	x	x	x		
Develop & improve the design & use of educational assessment materials for use with teachers and students	x	x	x	x		
Conduct an assessment of university programs to identify potential areas for regional coordination and resource sharing	x	x	x	x		
Expand construction of new public schools, as necessary	x			x		
Expand research & development related to the productive private sector	x	x	x	x	x	

Table 2, continued  
Linkage Between Sectoral Recommendations & Development Objectives

Recommended Sectoral Activities	GOAL	Objectives			
	Improved economic & social well-being of the population	Increased productivity & marketing of agricultural & manufactured goods	Strengthened capacity of both public & private sector institutions to plan & manage on-going & development policies, programs & projects	Improved educational attainment, health, and participation in the workforces on the part of the population	Improved use of renewable resources
<b>Finance &amp; Credit</b>					
Expand community-based savings & credit institutions (e.g., credit circles)	x	x		x	
Improve capacity of banks, credit institutions & insurance companies to plan, manage & evaluate their activities	x	x			
Develop finance & credit data and information clearinghouse	x	x	x	x	
Expand credit for the productive private sector (e.g., loan guarantees)	x	x	x	x	
Develop the management infrastructure for the finance & credit sector (e.g., policy instruments for financial regulation & standardized credit applications)	x	x	x	x	
Conduct study of capacity of existing institutions to manage larger loans to the productive sector	x	x	x	x	
Conduct study of & plan for broad-based insurance needs	x	x	x	x	
Improve capacity of Palestinian institutions to carry out planning & devise policies & programs at the macroeconomic & microeconomic levels	x	x	x	x	x
Expand credit for productive private sector through loan guarantees, etc., through donor agencies, and international, regional and national banking institutions	x	x	x	x	
Expand banking & credit services (branches of existing banks or credit unions or new banks or credit institutions to geographic areas in which no such services exist)	x	x	x	x	

Table 2, continued  
Linkage Between Sectoral Recommendations & Development Objectives

Recommended Sectoral Activities	GOAL		Objectives		Improved educational attainment, health, and participation in the workforce on the part of the population	Improved use of renewable resources
	Improved economic & social well-being of the population	Increased productivity & marketing of agricultural & manufactured goods	Strengthened capacity of both public & private sector institutions to plan & manage on-going & development policies, programs & projects			
<b>Health</b>						
Strengthen health systems' planning & management at all levels of the health care system	x		x		x	x
Improve financial management capacity & potential for cost recovery at all facility levels	x		x		x	
Expand facility, regional and inter-regional health planning & needs assessment activities	x		x		x	
Expand & improve capacity of institutions to collect, analyze & disseminate data & information for expanded health education programs (incl. disease prevention & occupational and environmental health, for example)	x		x		x	
Conduct an assessment of existing health research studies & data bases; disseminate results	x		x		x	x
Develop & implement facility & cross-facility health management & information systems	x		x		x	
Expand continuing education for health care providers to help ensure quality of care	x		x		x	x
Develop/adapt practice guidelines for all provider categories & levels of care	x		x		x	x
Expand primary & secondary level care, community-based rehabilitation & mental health services to underserved areas	x		x		x	x
Plan and implement regional systems care, to make the most effective & efficient use of scarce resources & improve care delivery	x		x		x	x
Improve existing health data & clearinghouses	x		x		x	x
Develop capacity of Palestinian health facilities & to offer diagnostic & treatment services not available in the O.T., IF doing so would improve effectiveness/efficiency of the system	x		x		x	
Support integrated health systems	x		x		x	
Support public & private health financing mechanisms	x		x		x	

Table 4, continued

## Linkage Between Sectoral Recommendations &amp; Development Objectives

Recommended Sectoral Activities	GOAL	Objectives			Improved educational attainment, health, and participation in the workforce on the part of the population	Improved use of renewable resources
	Improved economic & social well-being of the population	Increased productivity & marketing of agricultural & manufactured goods	public & private sector institutions to plan & manage on-going & development policies, programs & projects			
<b>Industry &amp; Enterprises</b>						
Enhance capacity of industry & enterprise in terms of productivity, quality control, management (financial, personnel, etc.) & research	x	x	x		x	
Develop & expand linkages between Palestinian industry & enterprise & foreign universities research institutions	x	x	x		x	x
Conduct comprehensive industry/enterprise inter- and intra-regional planning (including for feasibility/appropriateness of industrial zones)	x	x	x		x	x
Strengthen institutions which support industry & enterprise (e.g., Industrial Unions, Chambers of Commerce, & economic development institutions)	x	x	x		x	
Develop/expand industry/enterprise data & information systems & clearinghouses (e.g., marketing information systems)	x	x	x		x	x
Expand capacity for and/or conduct productivity & quality control, including directly & indirectly related factors (e.g., labor/management relations, occupational & environmental health practices & quality control mechanisms)	x	x	x		x	
Design & expand support systems for industry/enterprise (e.g., quality control, product testing, consultation for occupational health, trade)	x	x	x		x	x
Improve ergonomics and productive capacity of existing and selected new industries/enterprises	x	x	x		x	
Design & develop industrial zones, if determined to be appropriate (see above)	x	x	x		x	x
Adapt/develop new products through loans or small grants	x	x	x		x	x

Table 2, continued  
Linkage Between Sectoral Recommendations & Development Objectives

Recommended Sectoral Activities	GOAL	Objectives	public & private sector institutions to plan & manage on-going & development policies, programs & projects	Improved educational attainment, health, and participation in the workforce on the part of the population	Improved use of renewable resources
	Improved economic & social well-being of the population	Increased productivity & marketing of agricultural & manufactured goods			
<b>Infrastructure (Communications, Electrification, Transportation)</b>					
Improve managerial & planning capacity of Palestinians currently or potentially responsible for infrastructure projects	x		x	x	x
Upgrade capacity of skilled and semi-skilled workers in infrastructure	x		x	x	x
Develop computer-based information systems for planning & management of infrastructure projects	x		x	x	x
Upgrade & expand road networks, particularly key market access roads & roads in villages with little or no access to areas having basic services	x		x	x	x
Develop regional infrastructure plans, by subsector, focusing on most cost-effective systems, and expand community involvement in infrastructure planning	x		x	x	x
Conduct demonstration projects on alternative energy sources	x		x	x	x
Improve capacity of public, quasi-public & private organizations to design/adopt & manage infrastructure financial systems & to recover costs of related services	x		x	x	x
Expand electrification to villages without services & upgrade existing equipment	x		x	x	x
Develop/adopt certification & standards for standards for physical infrastructure personnel for use in initial and on-going assessment of skills among municipal & quasi-public employees	x		x	x	x
Expand communications systems, using appropriate, low-cost technologies	x		x	x	x
Expand integrated electrification system, using low-cost, appropriate technologies	x		x	x	x
Expand road network & link with Israeli & Jordanian road networks	x		x	x	x

Table 2, continued  
Linkage Between Sectoral Recommendations & Development Objectives

Recommended Sectoral Activities	GOAL			
	Improved economic & social well-being of the population	Increased productivity & marketing of agricultural & manufactured goods	public & private sector institutions to plan & manage on-going & development policies, programs & projects	Improved educational attainment, health, and participation in the workforce on the part of the population Improved use of renewable resources
<b>Trade</b>				
Conduct marketing studies & surveys to generate require trade-related data	x	x	x	x
Expand & improve linkages between Palestinian firms and trade institutions & foreign institutions, firms, & business & trade institutions	x	x	x	x
Expand & improve economic infrastructures which improve domestic & import markets (e.g., capital projects & systems for monitoring quality control)	x	x	x	x
Expand Palestinian trade missions & related short-term visits to foreign countries	x	x	x	x
Develop trade-related data & information systems & clearinghouses (linked to regional & international information systems)	x	x	x	x
Upgrade capacity of Palestinian firms to have competitive advantages (e.g., in new product development, quality control requirements of trading partners, marketing techniques)	x	x	x	x
Develop multi-national trade data & information systems	x	x	x	x
Develop/expand free trade zones	x	x	x	x
<b>Water &amp; Sanitation</b>				
Design & implement small-scale water & sanitation projects in the West Bank & Gaza Strip, using the most appropriate technologies	x	x	x	x
Immediate design & implementation of wastewater recycling, large-scale water-catchment & other related projects in the Gaza Strip	x	x	x	x
Design & implement small- and medium-scale sanitation projects	x	x	x	x
Upgrade capacity of Palestinian institutions to conduct water quality & other environmental studies	x	x	x	x
Conduct water, air and other environmental studies, focusing initially on high risk areas	x	x	x	x
Improve capacity of municipal & private companies to plan, manage & evaluate water & sanitation services & systems, including improving their capacity to recover costs of services	x		x	x
Improve capacity of skilled & semi-skilled employees, focusing on technologies & processes	x		x	x
Conduct study of water pricing & utilization	x		x	x
Develop/improve water & sanitation information systems	x		x	x
Develop a water and sanitation data & information clearinghouses	x		x	x
Plan & implement large-scale water & sanitation projects, as necessary	x		x	x
Expand support for multi-national water & sanitation projects in Middle East	x		x	x